

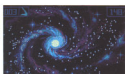
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25 PRIZES

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AMIGA!

See page 15

THE ACE CARD

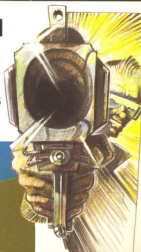
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Mike Singleton:
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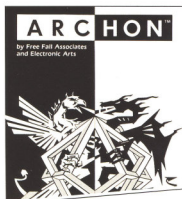
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all the info you need before you buy

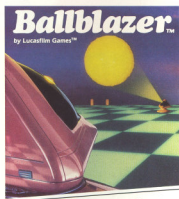
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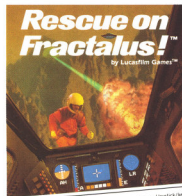
THE LATEST AND



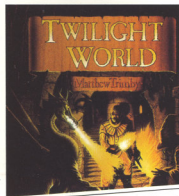
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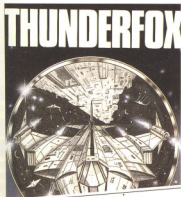
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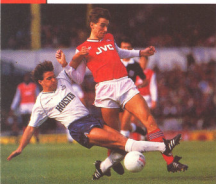
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ATARI

SPECIALS

31 Break The Bank

Want to be a millionaire? We check out gambling theory – plus the software that claims to help you beat the bookies and win the pools.



Predict the score and scoop the pools with Poolwinner.

67 Bandits at 6 O'Clock

...and 7 o'clock and 8 o'clock and 9 o'clock and...in a blistering hail of laser fire, ACE presents the definitive buyers' guide to shoot-em-ups.



Two players wreak havoc in Pituit.

87 Progress...Or Points

Are you an alien assassin who cares for nothing but the whimper of expiring life-forms and your position on the hi-score table – or are you a planetary pioneer who aims for the final screen, no matter how many bonuses you relinquish on the way? Andy Wilton discusses game-play styles...

103 Into The Maelstrom

Mike Singleton, programmer and game designer extraordinaire, talks exclusively to ACE about the chartbusting programs currently being coded by his company Maelstrom Games. Plus a chance of a job for ACE readers.

Mike Singleton, programmer supreme, tells us all on page 103.



ACE

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Electronic pets invade the Earls Court toy fair...New 16-bit disk loading system – one format for all...Amiga vs ST – who's on top?

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We put you one step ahead with news of next month's games in this month's issue.



Clean out that oak tree with Rainbird's Terminator.

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The Leaderboard hole-in-one controversy prompts certain readers to reach for their clubs. Is it a load of old balls?

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This month's issue goes out with a bang, and no kidding.

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...AND SOUND

83 The Food Of Love

From first sight to first night – an honest, no-holds-barred guide to the delicate subject of buying your first synth. Told in intimate, revealing pictures – and every one worth a thousand words.

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41 Screen Test

This month's red-hot releases face the ACE challenge. Check out Digital Integration's first non-simulacrum title – ATF: Advanced Tactical Fighter, plus stunning shoot-to-survive graphics on Xenon...and you can actually talk to the aliens in Infogrames' Captain Blood.



Captain Blood: Talk with the alien, grunt and squeak and squawk with the alien...

26 Arcade Ace

It's a knock-out! Heavyweight Champ floors the opposition...and probably the player as well.

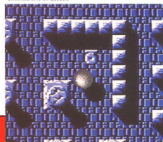
64 Updates

We cast a critical eye over the latest conversions for your machine, including ST Test Drive, Time Bandit on the Amiga – plus three new versions of the excellent Tetris.

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Superior's very superior Boneruncher laid bare in a 2-page players' guide – not to mention the last two levels of Nebulus, tips for Gryzor, Red October, and Quedex, plus the complete 90% proof solution to Andy Capp.

Unlimited time on Quedex.



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91 Adventures

Bard's Tale II reviewed, together with news of Info-com's *Sherlock Holmes* and Electronic Arts' *Return to Atlantis*. Plus a Danish adventurer's tale of toil and trouble as he plays an English game...

100 Subscription

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THE ACE CARD

See page 15 for full details on using the card that could win you software and hardware beyond your wildest dreams.

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Impossible Mission 2 – three Cambridge Computer Z88 portables and 25 copies of this long-awaited chartbuster must be won!

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109 Buyers' Guide

A completely new look for the best hardware and software listings in the home computer press – kept right up to date so you can check it out before you buy.

121 Random Access

A whole new section for you to peruse, ponder and puzzle over. Just make sure you have a pencil ready...

126 Readers' Pages

Psst! Wanna buy? Wanna sell? Looking for a pen-pal? Do it all over the counter and in the pink.

Hey, you!

Yes, you. What have you been doing with your computer this month? Were you busy programming it to win the pools? Or dreaming up a new strategy game? Or trying to find some way of linking it up to your guitar? Or conquering a new galaxy?

...and if not, why not?

The point is that only a few years ago, when computers were regarded as 'hobbyist', we all relied on the man in the street to provide us with software. The back pages of magazines were crammed full of ads for programs to do practically anything, from horoscopes to stock market options. Some of the stuff was pretty ghastly, but the enormous variety made up for the few rotten apples.

Nowadays, however, we rely more and more on a few big companies to answer all our computing needs.

Sure, we're not all programmers and those of us who prefer to play than poke have good reason to be grateful to those who produce the games so efficiently. But isn't there just the teeniest hankering for a bit more variety? Certainly there's more to computer entertainment than just gameplay – check out our article in this issue on gambling, for example. And what about some more graphics software – a DIY electronic comic generator, perhaps, or a state-of-the-art animator to link to the video.

Ideas like these don't come from a vacuum. They come from people like you. You're probably bursting with good ideas, so let's hear them, or – even better – let's see them. And if there are any attic programmers left out there – get coding! Don't forget that most of the big companies around today are manned by people who started where you are now. We need you, we need your originality, and (if your product's worthwhile) we'll reward you handsomely.

• The ACE Team

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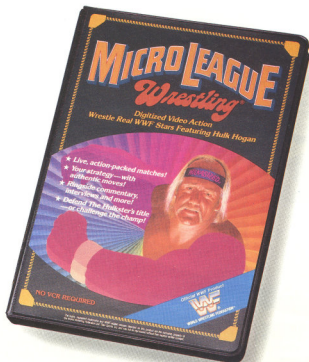
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CLASH OF THE TITANS



Who's winning the 16-bit battle for your hearts, minds and cash? Listening to Commodore and Atari spokespeople you'd almost believe that both companies were. In an attempt to get some more meaningful idea of the ST versus Amiga battle, we've canvassed opinion where it counts – in the UK's computer shops.

At street level, Atari's ST seems to be winning the 16-bit sales battle, but certain pockets of strong Amiga resistance are holding out. At the Sound 'n' Vision shop in Leigh, Lancashire, Graham Mills has reason to be happy with his Amiga sales – he's just won a holiday in Singapore from his distributors. 'The Amiga's doing fantastic', he says. 'It's outselling the

ST two to one.'

Down in Southend-on-Sea, however, the story's rather different. Estuary Computers' Nick told us that over Christmas the ST was outselling the Amiga by three to one, although the Amiga was picking up again now. The higher price of the Commodore machine, added Nick, was putting a lot of people off buying it in preference to the ST.

At Loughborough's Charnwood Computers the ST was reported to be outselling the Amiga by a factor of 10 to 1 and the shop's Alan Chrichton felt there would be no change in the situation unless Commodore cut the Amiga's price substantially. Alan also thought that if the Amiga were

the same price as the ST then 'Atari wouldn't stand a chance'.

HOW MANY ARE THERE?

Estimates of the number of 16-bit users vary; Commodore claim there is an installed user-base of 25-30,000 while Atari claim 110,000 for the ST. Other voices, though, suggest that these figures may be just a little on the optimistic side – reliable sources suggested more realistic numbers would be around 80-90,000 for the ST and 20-22,000 for the Amiga. Even if they're as low as that, the UK's still doing pretty well in the 16-bit stakes; in the USA there are only 140,000 STs in homes.

An Atari spokesman expressed satisfaction with ST sales last year, describing the machine as 'the fastest-selling home computer in the UK'. 1988, he suggested, would be a year of consolidation for the machine, with Atari seeking to 'increase the power of the machine rather than lower the price'.

VIRGIN TAKE 16-BIT RISK

Virgin are following the success of Diplomacy with the computer version of Risk, to be released under the Leisure Genius label. The program is a faithful conversion of the official board game and is the latest in a long list of projected titles for the label, which Virgin see as being one of its greatest assets.

'Leisure Genius is where we really shine', said Patricia Mitchell for the company, 'the games are timeless and very well suited to computer conversion.' Watch out then for ST Scrabble Deluxe, Monopoly deluxe, and Cluedo Deluxe during the coming year.

Waddingtons are revamping Cluedo, giving it more rooms and more characters. These changes will all be incorporated in the new

Leisure Genius version,' confirmed Patricia, who went on to say that Virgin are looking to release more '...advanced computer entertainment. We're looking at games in a more strategic vein.'

But Virgin aren't playing by the board alone – they've also got their eyes on other game genres, and mention historical simulations as a possibility. Not only that, but their interactive video division is pioneering a CD ROM exploration game about the North Pole, while other Virgin companies are involved in video distribution and program production. 'The 8-bit market is flooded', declares Patricia, 'and we're going the way of 16-bit, for people who are still looking for real games'.



The Virgin Gang of Five. Hmm...just how many fingers does Richard Branson have?

SOFTWARE SUPER SAVERS

ACE has received a stack of letters from readers complaining about the service of mail-order software suppliers **Software Super-savers**, who advertised in the first few issues of the magazine. Naturally, we've tried to contact the company about the allegations of orders sent, cheques cashed but games NOT received – in some cases as long ago as October and November of last year.

First problem: Software Super-savers are no longer at the address in Brentwood from which they used to advertise. They are now to be found at 72 North Street, Romford. Second problem: try phoning them on 0708-765271 and all you get is a recorded message suggesting you write in with your order – which is what the problem was all about in the first place...

Attempts to contact the shop's

owner, Mr. Clive Pullman, by teletext have met with a blank.

Readers with a complaint are best advised to contact the **Trading Standards Officer** of the local council where Software Super-savers operate; he is aware of the company's existence and will endeavour to investigate your problem. You should write or telephone giving all of the following information: name, address, telephone number, title of goods ordered, computer the goods were ordered for, date of the cheque, date when cheque was passed through your account for payment. Write or telephone: London Borough of Havering, Trading Standards Department, Mercury House, Mercury Gardens, Romford, RM1 3DS. Tel. 0708-766999

TWO INTO ONE DOES GO...

Most Amiga games are little more than direct conversions of their ST counterparts, Amiga owners often complain, but here's something new: a game whose ST and Amiga versions are literally identical. Take the disk out of the box, put it in an ST and it's an ST game. Put it in an Amiga instead, and it's an Amiga game. It's that simple.

Sounds like a practical joke? In a magazine with an April cover date you could be forgiven for thinking so, but prestige BT software house Rainbird are deadly serious. The revolutionary new disk loading system involved is ADLS, its creators Argonaut Software.

Just to show how serious they are, Argonaut are not using this

straightforward: they offer economies of scale. From the software house's end of things, one duplication run caters for both sets of users. At the retail end of things meanwhile, it's easier to decide how many copies of a game to stock. For Rainbird's Paul Hibbard, the latter point is particularly important in the American market: 'Out in the States

their own programs for other software houses. They're currently more than half way through a project for American giants Electronic Arts, so what does EA's Mark Lewis think of ADLS? 'It's pretty cool - a nice bit of marrying technology with software artistry. Jez (Argonaut boss Jez San) has shown it to us, though we haven't discussed using it ourselves at length. We already produce 'flippies' - 5.25in disks with a C64 version on one side and an Atari 800 version on the other, as well as packaging 5.25in and 3.5in disks in the same box.'

Whatever the commercial advantages of ADLS, public reaction could still be a problem. The Amiga owners' instinctive 'Don't try palming off poor ST conversions on us!' isn't entirely reasonable - there's no reason why ADLS games should be any poorer at using the ST's facilities than any other - but there have already been cries of indignation along these lines.

Starglider II will make extensive use of the Amiga's custom chips, with both the Amiga and the 1040ST offering access to a whopping 500K of sampled music from the B-side of the disk. This represents at least as good a deal as 128K Spectrum owners normally get for their extra hardware, but the hefty price difference between STs and Amigas could still cause psychological problems. If ADLS can kill off the £24.95/£19.95 price gap between (essentially identical) Amiga and ST versions of a game, that ought to make it the Amiga owner's friend: let's hope it does.

ADLS: THE TECHNICALITIES

The ST and Amiga certainly have a great deal in common. They use the same central processor - the Motorola MC68000 - and have broadly similar technical specifications, so converting programs from one to the other is a relatively simple matter. Of the information contained on a typical ST game disk - the game code itself, data, title screens etc - around 90% will be identical on its Amiga counterpart. That's not just a consequence of poor conversion work from the one to the other: that's a measure of how similar the two machines are.

Of course, there's a snag here: the ST and Amiga disks might be 90% identical as far as the information stored on them goes, but that doesn't mean the information's stored in the same way. Both machines use standard 3.5in disks.



Paul Hibbard of Rainbird: 'Simplifies things for shop-owners.'

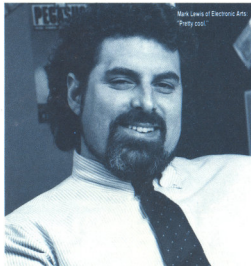
but stick a normal Amiga disk in your ST - or vice versa - and you won't get very far. Not, that is, unless you know what you're doing.

The first hurdle to a dual-version program is 'rejection'. Both the ST and the Amiga will interpret foreign formats as disk errors, and refuse to do anything with the disks concerned. The machines can be fooled into accepting strangely formatted disks, but producing something both machines will accept is no easy matter.

HIGH CAPACITY

In designing their disk loading system, Argonaut set out to cram as much data as possible onto the disk. Their aim in so doing was to overcome the greatest single handicap of the 520ST: its single-sided drive.

Though the Amiga and 1040ST both have high capacity double-sided drives cramming in 880K and 720K respectively, the 520ST has to make do with a standard capacity of only 360K. This falls far enough short of its 512K RAM size to give games programmers some real headaches, or force software houses



Mark Lewis of Electronic Arts: 'Pretty cool.'

technique on any old game, but the sequel to their highly successful 3D shoot-em-up *Starglider* - and that means there's an awful lot of money at stake. So how have Argonaut managed to make the same game run on both machines? More to the point, why did they bother?

The hows of the project are pretty complex things - see below - but the reasons why dual-version disks look attractive are quite

they'll sell 5.25in and 3.5in versions of a PC game in the same box: it simplifies things for shop-owners. We suggested the possibility of a similar thing on the ST and Amiga, but on just the one disk, and Argonaut came back with ADLS.'

It may be a Rainbird game that uses ADLS first, but Argonaut will keep the rights to the system and may well license it out to other developers, as well as using it in

es to release ST games on two disks to the Amiga version's one. By casting aside the normal format (as would have been necessary in any case to get an Amiga-bootable disk) Argonaut have managed to cram 500K of program and data onto a disk – the maximum that the ST can read.

Once you abandon standard formats, you start to run up overheads. In particular you must write your own hardware driver routines to load your program in from disk. These drivers themselves take up disk space without adding anything to the program directly, and this point has put a lot of programmers off the whole idea of dual-format disks.

According to Argonaut's Jez San however, the hardware drivers for ADLS take up very little disk space. The total loss involved in using the dual-format technique compared to a normal high-capacity disk format is 'very small', he says – 'less than 20K'. A little finger arithmetic gives 480K as the space left for game code and data, and that's enough to fill a 520ST or Amiga A500 right up – assuming that screen memory takes up at least 32K, as it almost always will do.

This is a crucial point: if you can fill the machine's memory with code or data from a disk, that's as much as you need to do for most purposes. Any disk space left over is only useful for overlays – sections of code or data that load in as required – and nowadays these are increasingly often confined to between-game and title sequences.

Of course, not all that 480K is actually useful to both machines. Graphics and sound handling aren't identical on the two machines – especially if you're aiming to make the most of the Amiga's extra power – so a conscientious programmer will want two entirely different sets of routines here. You'll also need a piece of code that works out which machine the game's running on and selects between the two sets of routines accordingly – but none of these need take up that much room if the program's written carefully.

Aside from two-disk ST adventures which access the disk continually – these may be too big for one ADLS disk, in which case the system loses its appeal – the only other area where ADLS could run into problems is reliability. Mass duplication of *Starglider II* is still some way off, so it's hard to estimate just what sort of a failure rate it's likely to produce. High-capacity disk formats have given other houses trouble on this front in the past, and ADLS pushes the ST drive harder than most systems do, but it's still too early to tell how it will fare.



Kwazimodo – action all the way.

ROBTEK'S BAD HUNCH

While some quarters of the software industry still argue whether the increasing trend of porting games from 16-bit machines down

to 8-bit micros is a good or bad thing, some software houses seem to be adopting that practice in reverse.

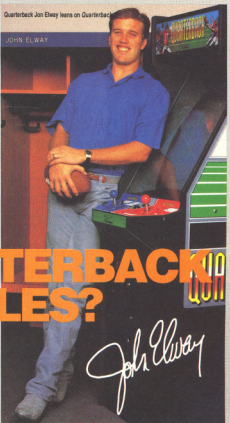
Take Robtek for example, who have recently released an Amiga game called *Kwazimodo* which retails at £9.95. The game looks very much like an ancient Spectrum game with few enhancements. *Kwazimodo* is slow, dull, and suffers from serious collision detection problems. Spectrum games of even four years ago were generally faster and had more playability than this, despite the fact that the machine was still relatively new and programming standards were not as high as they are today. When Robtek's sales director Mike Segue was asked what he thought of *Kwazimodo* he replied that Robtek were 'not overly impressed with the game.' He went on to tell us that the game was released 'for a variety of reasons, many contractual.' Which, to do Robtek justice, makes it sound as if they were obliged to release the game. Mr Segue was swift to point out, however, that there were 'a lot better games to come from Robtek.'

If you listened to all the hype before the latest *Super Bowl* you could be forgiven for believing that Jon Elway – the Denver Broncos' quarterback – could walk on water, or at least pat his head and rub his tummy at the same time. And if you'd signed him up to endorse an American Football arcade game, you'd probably have been dreaming of all those 10p pieces filling your coffers.

After the match...well, after the match you'd probably have been wishing you'd signed up a certain Doug Williams instead. But *Arcadia* – the Mastertronic offshoot who'll be bringing *Quarterback* to these shores – are putting a brave face on it. Mastertronic's Rachel Davies 'explained' the Broncos' defeat by claiming that Elway 'was too busy getting excited about the Mastertronic tie-up'. Nice try. And will the great one be coming over for a personal appearance? 'Not unless he cares to swim...' suggests

Quarterback Jon Elway leans on Quarterback

JOHN ELWAY



QUARTERBACK FUMBLES?

Rachel.

But the game – what about the game? *Quarterback* looks as though it will be one of the better American football simulations, detailed down to the cheerleaders' display at half time and the list of the top money earners when the game is over. Expect to see it around within a month or two.

METAL MOGGIES TAKE OVER

Steve Cooke reports from the Earls Court Toy Fair...

Robotic pussy cats, silicon butlers, and kiddy computers were all in evidence at the latest International Toy Fair at Earls Court.

Oddest, but most intriguing, had to be Tomy's range of Petsters from Nolan Bushnell, the man who founded Atari but now sees his future in micro-processor controlled miaows. Petster Deluxe is a furry feline bundle with a stubby tail and flashing eyes who can be controlled by different hand-clap sequences.

For £99.00 you can watch Petster scurry about the floor, wagging its tail and finding its way round the furniture. Clap a different rhythm, and your little friend will spin on the spot – wait to be stroked – and rush off for the shelter of the sofa. And the only things it leaves on the carpet are dead batteries...

Those of us who aren't fond of cats can share our lonely hours with Petster Spider – your '...furry electronic spider friend who does everything he's asked'. Not EVERYTHING, surely? The mind boggles. As it is, he can put on a good display of falling asleep, then waking up again with his eyes flashing, and scampering across the room. Houseproud owners will be relieved to hear that it does not actually spin webs.

On a more practical note, however, £399.00 will get you an Omni 2000. This remote-controlled toy-bot features manipulating limbs and a learning/programming function that can have him trotting off down the hallway to fetch you a drink from the



Petster Spider – Only a matter of time before we see the Petster Fly?

kitchen. By the time he gets back, you'll probably need one. If Omni 2000 is a spot too intimidating, you can have almost as much fun with his younger brother, Omnibot. Both



Petster and Petster Deluxe – push-button miaow and no mess on the carpet.



Adam's Animated Learning Window provides simple electronic diversions for the over 5s. We don't expect to be printing many pokos for this machine...

will soothe your shattered nerves with taped music if so required.

MINI MASTERMINDS

In a rather more serious vein, Adam Leisure were showing the 'Grandstand IQ Builders'. Top of the range is the £49.95 Animated Learning Window, which is a small pressure-sensitive keyboard with simple LCD display. The unit offers spelling and numeracy games for children over 5 years old. In addition there are add-on cartridges to provide voice capability (£25.00), additional dictionaries, and other features. £12.95 gets you built-in music functions, electronic drawing, animated pictures, or thirteen different 'activities'.

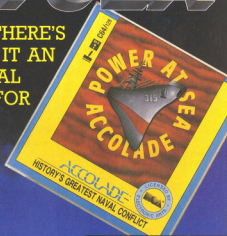
If all this has you weeping with nostalgia for the good old days of soft cuddly bears and rocking-horses, take heart – traditional toys still occupied 95% of the exhibition. Asked if they didn't think new technology threatened their business, one soft toy rep grabbed a bear with the immortal phrase, 'Look at this then – it talks'. He then turned it upside down – 'Blehrrere' went the bear – '...But of course it does have a limited vocabulary', he admitted. ●



Tomy claim that Omni 2000 is 'the most sophisticated Home Entertainment Robot' on the market. It probably told them that itself.

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Snippets..

Up and coming titles for your micro.

TIME FIGHTER

CRL

C64 £9.95cs

The first version of this seven-stage shoot-em-up will be for the C64 with possible 16-bit versions later. It sees the player travelling through several time periods always in the thick of trouble. The game's developers have spent a lot of time studying animation techniques to make the central character's movements as lifelike as possible.

TRASH HEAP

Robotek

Atari ST £19.95dk

You'll need a memory of at least 1Mb before you attempt to play this game, which comes complete with a pair of cardboard framed, tinted lensed glasses that enable you to view the action in stunning 3D. Your mission is to race across the milky way and deliver some potent drink to your emperor. Take care not to spill any though. *Trash Heap* should be available now.

SLAYGON

Microdeal

Atari ST £19.95dk

With the most sophisticated military robot ever created under your control, you must try to infiltrate and destroy the Cybodynamics Laboratory. With 500 rooms to explore (not all immediately accessible), be prepared for long sessions in front of your screens. *Slaygon* should be in the shops as you read this.

CARD SHARK

Accolade

C64 £9.95cs, £14.95dk



The status screen in *Strike Fleet*.

The dealing should start real soon now in this card playing sim featuring Poker (three variants: Five Card Draw, Seven Card Stud and Texas Hold 'Em), Blackjack and Hearts. You play for money against computer controlled opponents who will speak their minds should the game turn sour.

ALIEN SYNDROME

The Edge

Spectrum £8.99cs

C64 £8.99cs, £14.95dk

The Sega coin-op that features such memorable end-of-level guardians as The Huger is due for release. 16-bit versions are under development too and should also be with us quite soon now. It's a Gauntlet-style game in which your buddies are looking to you for rescue.

CYBERNOID

Hewson

Spectrum £7.95cs

Atari £9.95cs, £14.95dk

C64 £9.95 cs, £14.95 dk

Raffaele Cecco's latest program is a shoot-em-up crammed with wacky weaponry including drop bombs,

horizontal beamers, climber blasters and laser bouncers. Plenty of juicy extra weapons to collect then. Look out for it any day now.

DESTROYER

Epyx

Amiga £24.99dk

Anchors are due to get weighed in the near future in this game where you play the captain of a fully armed, Fletcher class U.S. Naval destroyer in this action/strategy game from Epyx. Use your Bofor 40mm twin guns to reduce the enemy planes to so much rubbish.

ROCKET RANGER

Mirrosoft

Amiga & ST about £29.99dk

Others undecided

You'll find almost everything in here! From zapping guns to zombie women, from vile Nazis to mind-controlling machines. There's plenty of strategy, arcade sequences and a non-linear plot to keep you busy. Commodore versions should be here first with ST and PC versions following shortly.

STRIKE FLEET

Electronic Arts

C64 £14.95dk

This latest Lucasfilm game offers strategy and arcade action in a modern naval combat simulation. You've got an entire fleet to command and ten dangerous missions to complete (each of which takes place in a different location). You can opt either to play the game one scenario at a time or - if you think you can handle it - you can play the whole campaign at once. *Strike Fleet* should be dropping anchor at your local software emporium very soon.

TASK III

Databyte

C64 £9.95cs, £14.95dk



Databyte's first European programme should be in the shops right now. This one or two player action-packed arcade game features smooth graphics, stunning music and 16 levels. It's a rection-testing game that has you trying to save the galaxy from impending doom.

INTERCEPTOR

Electronic Arts

Amiga £24.95dk

An action-packed flight sim where the player is given six missions to complete in and around the San Francisco Bay area. You have a choice of two planes, the F18 Hornet and the F16 Falcon. Both feature digitised jet and weapons sounds. Look out for it sometime in

YUPPIE FAX

At long last PCW-owning yuppies - and isn't anyone who owns a PCW by definition a yuppie? - have a computerised personal organiser that will print out Fiofax-compatible pages - DATAfax by Kempton Data.

The PCW's printer will produce copy in condensed print on both sides of the page, which can then be separated along the perforations and inserted into your very own Fiofax, or other compatible organiser. Options in the software include Diary, Notepad, Telephone/Address book and Calendar.

DATAfax costs £39.95 for the software, and 10 quid more if bought with 'a stylish grey binder with supply of continuous paper.'



ARIZONA DIGITISED

70,000 square miles of terrain from Arizona and southern California have been stored in memory for Hughes' modified Weapons Tactics Trainers (WTT). 360-degree 'dome' screens surround the cockpit, providing full-colour, high-resolution, real-time images of the surrounding terrain. The idea is to allow pilots to practise ever more complicated manoeuvres without cost in terms of fuel or weapons - or aircraft, presumably. We await the Spectrum version with interest.

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GET CAPTURED, NO THANKS.



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(This offer valid while stocks last).

PUBLISHERS STATEMENT

Each one of the 25 winning four-letter codes printed on the opposite page corresponds to one of the cards distributed free with this issue of Advanced Computer Entertainment.

If any of the 25 prizes remains unclaimed after the closing date, then the same prize(s) or others of equivalent value will be carried forward and offered in the next-but-one issue of ACE.

Signed

Chris Anderson

Chris Anderson, Publisher

RULES

1. This promotion is open to everyone with the exception of employees of Future Publishing Ltd and anyone involved in the distribution or retailing of Advanced Computer Entertainment magazine.
2. Ownership of the ACE card is limited to one per household.
3. Each four-letter code printed in the magazine corresponds to a winning 5-digit number on one of the ACE cards.
4. The codes must be correctly decoded using the program printed each month in the magazine.
5. Claims for prizes must be received by first post on the closing date at the latest. The value of any unclaimed prize will be carried forward to future issues.
6. If due to a production error, more than one person claims a single prize, the publishers reserve the right to divide the prize between the claimants.
7. In the event of any dispute, the decision of the publishers is final.

HOW TO CLAIM A PRIZE

If you are one of the winners, you may claim your prize simply by posting us your ACE card together with a note saying which prize you are claiming (and from which issue of ACE).

If your prize is for software, list carefully the software you would like from the selection printed in the ACE Reader Offer pages (100-101).

Assuming your claim is valid, we will forward your prize and return your card within 28 days (probably much sooner).

Post to: ACE CARD PRIZE CLAIM, 4 Queen Street,
Bath BA1 1EJ Closing date for claims April 10th, 1990

THE DECODER PROGRAM

This short program listing will DECODE the 4-letter codes printed below next to the prizes. It turns each code into a five-digit number such as the one printed on your ACE card. All you have to do is type in the program using the instructions for your computer printed below.

Then RUN the program. It will ask you to input each of the prize codes in turn and will then reveal on screen the winning numbers. If your number comes up, YOU CAN IMMEDIATELY CLAIM YOUR PRIZE!

If you are unable to get the program to work, a list of the winning numbers, correctly decoded, may be obtained by sending a stamped addressed envelope to:

ACE April winners list,
4 Queen Street,
Bath BA1 1EJ

C64, CPC, ST, AMIGA version

```
10 FOR A=1 TO 25:INPUT "Code":BS$
20 B=0:FOR C=1 TO 4:B=B*26:
30 D=ASC(MID$(BS,C,1))
40 IF D>90 THEN D=D-32
50 B=B+D*65:NEXT C:PRINT "Winning Number is":B:NEXT A
```

SPECTRUM version

```
10 FOR A=1 TO 25:INPUT "Code":BS$
20 LET B=0:FOR C=1 TO 4:LET B=B*26:
30 LET D=CODE BS(C TO)
40 IF D>90 THEN LET D=D-32
50 LET B=B+D*65:NEXT C:PRINT "Winning Number is":B:NEXT A
```

TYPING IN THE PROGRAM

SPECTRUM

48K: Power on, and type the Spectrum listing as shown, pressing ENTER at the end of each line. To get the word CODE in line 30, hold down caps shift and symbol shift keys together and press the letter I key. When you've typed all five lines in correctly, press R (or RUN) followed by ENTER. Now type in the codes one at a time, pressing ENTER after each one: the program will stop after you've typed in all 25 codes.

128K: Select 128K BASIC mode from the start-up menu and type in the Spectrum listing as shown, hitting ENTER at the end of each line. Type RUN, hit the ENTER key again and type the codes in as for the 48K Spectrum above.

C64/128

Type the listing in as shown, hitting the RETURN key at the end of each line. Type RUN (Don't use the RUN/STOP key), hit RETURN and then type the codes in one after the other.

AMSTRAD CPC

Type the listing in as shown, hitting the RETURN key (6128) or the larger of the two ENTER keys (464 or 664) at the end of each line. Type RUN and hit RETURN or the large ENTER key again - don't use CONTROL and the small ENTER key here - and type the codes in one after the other.

ATARI ST

Put the LANGUAGE disk in the drive and switch the ST on. Double-click first on the drive A icon and then on the BASIC PRG icon to boot Basic. Type EDIT and press the RETURN key. Now type the listing in, hitting RETURN after each line, and press the F10 key when you've typed all five lines in. Now type RUN, press RETURN again, and type the codes in one at a time.

AMIGA

Switch on, put your 'Workbench' disk into the drive and wait for the desktop to appear. Now put your 'Amiga Extras' disk in the drive, double-click on the EXTRAS icon and then double-click on the AMIGA BASIC icon. Type the listing in as shown, hitting RETURN after each line, and then click on the BASIC (rather than the LISTING) window. Type RUN, hit RETURN and then type the codes in one at a time.

OTHER MACHINES

The 'C64, CPC etc' listing is standard Microsoft Basic, so it ought to work on most micros. If you can't get it to work on yours, write to us for a list of winners—details of this are printed above.

ONE 1st PRIZE: AMIGA 500 + COLOUR MONITOR

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FOUR 2nd PRIZES: £50 of software - chosen from the ACE Special Offer pages

The winning codes: BYVQ • DNZN • AVSC • CQAL

TEN 3rd PRIZES: £25 of software - chosen from the ACE Special Offer pages

The winning codes: CMNM • AWCD • BRX • CSAH
• AQIW • CKDY • DDCD • BSXO • CAPS • AQVY

TEN 4th PRIZES: A year's free subscription to ACE magazine.

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URGENT NOTICE Don't be misled by adverts showing 'between prices'. A recent complaint against a Manchester repair firm, Mancomp, was upheld by the Advertising Standards Authority on two counts. It had stated BBC repairs between £14 and £45 then charged the customer £85. Their guarantee policy was misleading as it did not make clear that all repairs were not covered.

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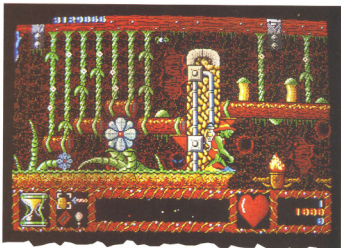
VERMINATOR

Rabbit

After the very respectable ACE rating of 813 for Firebird's *Black Lamp* last month, here's another good-looking ST arcade adventure from Telecomsoft. People expecting Amie Schwarzenegger to pop up as a homicidal time-travelling robot have seriously misread the title, because the name of this game is pest control. As the three-legged hero of the tale you must work your way up an ancient 250-screen oak tree, exterminating a wide variety of creepy crawlies and collecting handy items of equipment en route.

Written by Chris Hinsley (of *Everyone's a Wally Game*) *Verminator* aims to offer gameplay with a bit of depth to it by bringing in some financial problems. Do you gamble for money, try for a bank loan, or go to the neighbourhood loan-sharks and put your kneecaps on the line?

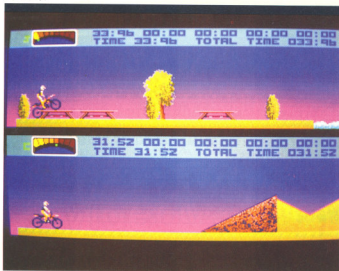
Verminator (ST): You're the green guy with three legs - handsome devil, aren't you!



STEP ON IT!

It's pedal to the metal this month as we start up another set of high-performance games! Will they burn rubber on the competition, or just stall at the traffic lights? Have they got the turbo-power to really eat that tarmac up, or can't they even make it into second gear? Watch out for a full road-test in an ACE near you, soon!

Kikstart II (Amiga)



KIKSTART II

Mastertronic

We've already reviewed the Spectrum version of this bike-balancing budget number - see last month's ACE - but it'll be putting in an appearance on the Amiga any day now and we just had to share these pictures with you. Aren't they pretty? The sound's not to be sniffed at either, but we couldn't figure out how to print that. OK?

Kikstart II (Amiga)

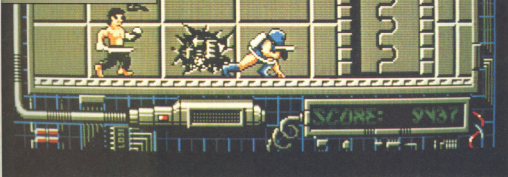
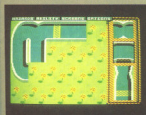


CHAMPIONSHIP SPRINT

Activision

If you loved Super Sprint but thought it didn't have enough courses to really hold your interest, this one could be the answer to your prayers. It's not just the set of new courses you might have expected: it's a race course construction set. You want a simple loop or a figure of eight? Simple! You want slow drones, lots of spanners and plenty of oil on the track? No problem! All this can be yours if you own a C64, Amstrad or Spectrum. Watch out for the definitive ACE review next month, sports fans!

Championship Sprint (C64): And here's one I made earlier.

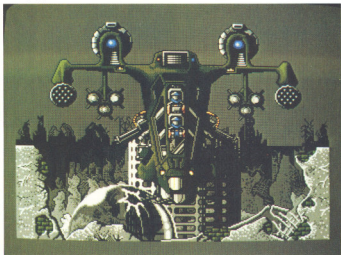


STORMTROOPER

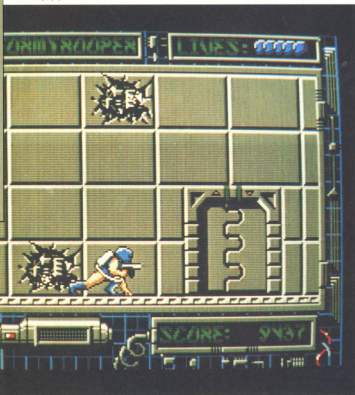
Creation

They may not be terribly well-known just now, but newish 16-bit house Creation could make quite a name for themselves with this one if the screen shots are anything to go by. The main game background scrolls horizontally – not an easy thing to achieve on the ST – as you blast your way into an enemy-held mining complex of the future. We're hoping to review this one next month, with Amiga and PC versions to follow.

Stormtrooper (ST)



Stormtrooper (ST)



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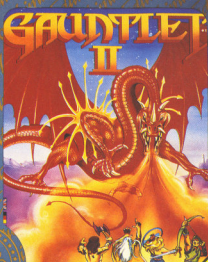
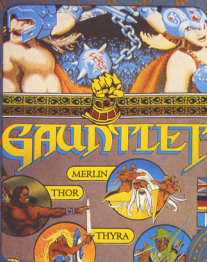
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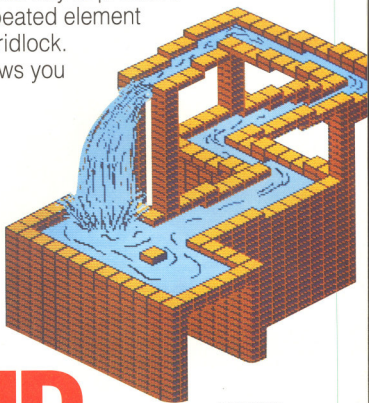
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Just about the fastest way to produce a picture with a repeated element in 3D is by using gridlock. Brian Larkman shows you how.

One of the most dramatic changes in the design of 8-bit computer games was the arrival of pseudo-3D in games like *Knight Lore*, *Batman* and *Alien 8*. Before *Knight Lore* most games – certainly most arcade style games – had a two-dimensional, side-on approach. The unique viewpoint of this Ultimate game was the three-quarter view, directly above one upper corner of the 'room' and looking into the centre. Objects and characters moving about on the floor below gave the impression that they were travelling 'in' and 'out' of the screen.

That 3D movement was, of course, an illusion compared to the true 3D views created by games like *Elite*. Nevertheless, it's a very persistent illusion and is very easy to create with the simplest drawing tools available in almost every drawing package. This month we'll experiment with yet another



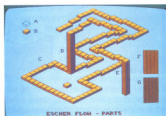
ESCHER FLOW

A colour low-resolution Deluxe Paint 2, with apologies to M C Escher. Drawn using a simple, cubic, three-quarter view block, pasted with gridlock in operation.

RAPID REPEATER

trick to avoid the hard work of having to do any 'proper' drawing. There are two main advantages of the three-quarter view. It allows perspective to be ignored and it encourages the use of gridlock.

If perspective is to be ignored the next question is – to what degree are the laws of nature to be flouted? The worst case can be illustrated with a die or cube of sugar. If a die is held with one face toward you and the opposite comes facing up and down, what you see is a square twisted 'diamond fashion'. If the top corner is now tilted away from you the square appears to be squashed into a true diamond shape and two other faces of the cube come into view. There is no time when the face is a square, and when the other faces can be seen. Nevertheless, if a drawing is made with the upper faces square (having corners of 90 degrees), the other sides can be drawn in without the



ESCHER FLOW - PARTS

Basic components used for main drawing.

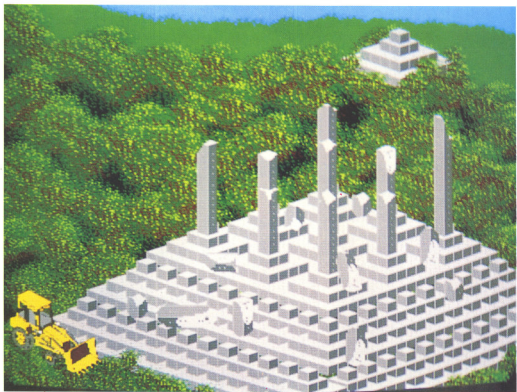
- A. Outline block. Angles chosen to minimise aliasing effects.
- B. Filled block. Colours chosen to show direction of light. Using this basic block and colour scheme ensures that the final picture will have consistent lighting.
- C. Waterway path. Block can be aligned easily with gridlock in operation. Starting at the back ensures 'hidden line removal'.
- D. Easy Pillar. Starting at the bottom on a 'key block' (nearest the front).
- E. Difficult pillar. To retain 'hidden line removal', the top of the wall must be re-drawn back to a 'key block'.

drawing looking awful. This style is frequently used on the Apple Macintosh to design icons and other graphic symbols. The great advantage of this method is that the effects of 'aliasing' or jaggeds are kept to a minimum. Most lines other than vertical or horizontal (when aliasing is not a problem), are at 45 degrees giving the minimum jaggedness.

If this degree of distortion is a problem then a more acute angle can be chosen. Using gridlock it is possible to produce an angle that gives an even degree of stepping. Once this angle has been determined a three-quarter view cube can be constructed like that shown at (A) in both the parts diagrams. Experimenting should produce the ideal cube for your purposes.

With gridlock still selected pick up the outline cube as a window/brush with transparent background. The rubber-box used to

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NEW CONQUISTADOR

32 colour - Amiga Interlace resolution - Deluxe Paint 2 Simple block pasted into a section of the temple, then section scaled down and repeatedly pasted using gridlock.

'pick up' should be positioned so as to just cover the upper and lower points and the left and right sides of the cube. If the box was positioned correctly it should be possible to paste a row of cubes, next to each other, above each other and touching corners, in perfect alignment, as shown in *Temple Parts* at (B). Again, a little experimentation should perfect this trick.

Temple Parts (B) shows that the outline 'wireframe' construction soon becomes a bit of a mess. A far better result can be obtained by filling the three sides of the cube with slightly different tones. Usually, pale on top

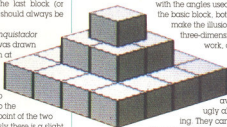
and the two darker tones on the sides gives a lifelike 'block'. If more than four colours are available the faces can be textured or 'dithered'. By repeating the process of picking up the filled cube with gridlock selected it should be possible to build up a credible wall or building similar to *Temple Parts* (D) and (E). To achieve a sort of hidden line removal it is better to start at the back of the construction and work forward. The last block (or key-block) to be positioned should always be that at the front.

The *Temple* in *New Conquistador* (apologies to M.C. Escher) was drawn using the basic block shown at (A) and (B) in *Escherflow* parts. The basic waterway (C) was arrived at by trial and error, starting at the top and working down. Close to the letter (C) the final meeting point of the two sides can be seen. Obviously there is a slight offset (mistake in any other language) but I positioned it at a point where the waterfall would cover it up. It is a part of the art to learn how to cover up - or even better use - mistakes in this way.

The pillars were drawn using one block, starting at the bottom. Those at the front (bottom) edge (D) are easy to build up as the final block in the pile is the key-stone. Other pillars such as that at (E) are more difficult. They require either that the basic pathway of

blocks is repeated back to a key-block to remove inconsistencies, or that the point where the top of the pillar joins on is picked up and stored in advance and then pasted down again when the pillar is complete. Gridlock makes these operations very easy.

The solid walls were constructed in outline, again with gridlock selected. It is important to maintain continuity with the angles used for the basic block, both to make the illusion of three-dimensions work, and to



avoid ugly aliasing. They can be filled most easily by making a suitable pattern and using, for instance, the *Textured Fill* command in *Advanced Art Studio*.

The final touches in both main pictures were very simple. The *Temple* drawing used a small area sprayed with a few colours as a brush for the vegetation. It is important to leave some areas of dark to give a feeling of depth. Most of the spare screen was painted with this vegetation then merged in behind the temple. The JCB (symbolic of the present

Gridlock

One of the least used facilities in most painting packages is gridlock. In most circumstances the tools available for drawing can be used to place lines, dots and areas of colour absolutely anywhere on the screen.

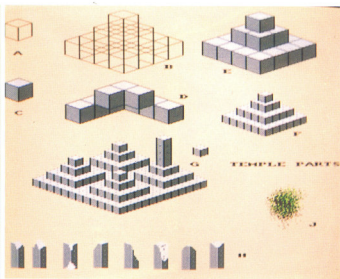
Gridlock is designed to limit the placing of some brushes, lines and blocks to the corners of an invisible grid. With gridlock turned on for example, and with the grid set to 8x8 pixels, the smallest box that can be created is 8x8. Similarly the end points of any rubber banded line that might be drawn are limited to the corners of the grid. This does not prevent the drawing of diagonals however, rather, it limits them to specific angles.

devastation of the world's rainforests) was constructed last month using a transparent 'cel' placed over the screen. The waterfall and flow lines in the 4 colour drawing were all drawn free-hand using a one or three pixel brush.

All these drawings were made using gridlock and a very simple 'cubic' block. It should be possible to get more interesting results using more complex blocks and cylinders, and by varying the size of the grid. As long as the blocks are constructed and cut and pasted using one size of grid, consistency should be maintained. Good luck with your gridlock. ●

The three-quarter trick

The basic technique or 'trick' of a three-quarter view game is that it ignores perspective. By looking down onto the scene at quite a steep angle, the objects furthest away are (in real life) hardly any smaller than the nearest ones, despite the laws of perspective. If perspective is completely ignored therefore, the impression of depth can be created without the nuisance of reducing the size of objects as they move toward the back of the scene. In the illustration 'Escher Flow' above this effect is exaggerated to create quite a peculiar illusion. 'New conquistador' on the other hand, shows that a lifelike scene can also be created using such a view.



TEMPLE PARTS

Components used for New Conquistador.

A. Outline block.

B. Outline temple section. Without 'hidden line removal' this construction soon becomes very confusing.

C. Filled block.

D. Filled temple section showing construction method starting at the back.

E. Complete temple section with all hidden lines removed by front blocks.

F. Temple section scaled down for further construction.

G. Composite temple and reduced block used to extend the pillars.

H. Broken Pillars.

J. Vegetation Brush.

ARTWORKS

We are proud to present the second instalment of our series of readers' artworks. This month's selection covers everything from Spectrum and C64 to ST and Amiga – and there are some very fine pictures for you to feast your eyeballs on.

If you want to join the fun and strut your stuff before the rest of the world, send your work – preferably on disk, with an explanation of how you created it – to **Artworks, ACE, 4 Queen Street, Bath, BA1 1EJ**

A BIRD

Barry Smith, Thurderley, Essex.

Barry's first serious piece of ST artwork was created using Rainbird's Advanced Art Studio. Barry reckons the best way to use the package is to build up pictures on the grid as opposed to the main screen.



ESCAPE

Christian Simpson, Richmond, Surrey.

Christian writes: 'If you click the right mouse button on the R of GRABBER, when selected in Neochrome, a new function appears – the animate function. Animate a figure, speed up the animation and then press escape, the workbench is then copied onto the screen. From here I moved the icons from the boxes and edited them to give the escaped effect.'

FROG

David Dickson, Farnham, Surrey

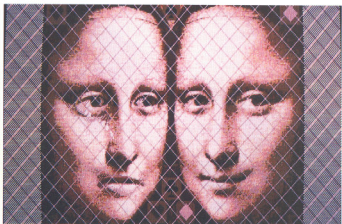
David's fine example of C64 wildlife art was produced entirely using the graphic editor in Basic Lightning.



LEVEL 42

Shaun Davies, Barnsley, S Yorkshire.

This prolific artist creates all his masterpieces on the ST using Mirrosoft's Art Director.



FROM BEHIND THE WIRE

Roy Lewis, Preston, Lancashire.

Roy's ST works of art were created using Integral Solutions' Degas Elite package.



19

David Fox, Sheffield.

Created in lo-res on an Amiga using Deluxe Paint. Drawn freehand.

RED ARROWS

Mr B.S. Oldfield, Folkestone.

Mr Oldfield uses Animator 1 to express his artistic flair on the Spectrum. A sound tip from Mr Oldfield is "patience, patience and more patience."



PATHWAY

Shaun Davies, Barnsley, S Yorkshire.

Another example of Shaun's handwork. Created on the ST using Mirrosoft's Art Director.

BRING ME THE HEAD...

Frank Toul, Torquay.

Produced on an Amiga using Deluxe Paint. Single items were created, picked up with brushes, saved and then overlaid.



Dungeon Master

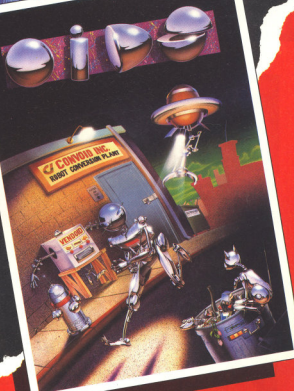


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Rock and Ace up against a Tank in the early stages. Blips on the map indicate more monsters to come.



Rock waits for Ace to join him on the way to level 3. Poor fellow - he's so bored he's noddin' off.

XYBOTS

Atari -20p per player

Two-player arcade action hits the coin-ops in this strange and - initially, at least - confusing game. The once peaceful planet has been invaded by a load of nasty robots, who now inhabit the multi-level underground centre.

The players - and it's much more fun as a team - take the roles of Captain Ace Gunn and Major Rock Hardy, two real hotshot dudes who have, of course, got to clean the place up.

Xybots features an interesting split-screen display; at the top centre is the map of the layout. You need to use this because the actu-

K.O!

It takes two to tango this month. Atari's **Xybots** gives you 3D joint exploration, while Sega's **Heavyweight Champ** pits you against a series of mean opponents in the modern arena of the boxing ring. It's a game that really takes brawn - and takes it out of you too.

al playing area is a maze of walls and corridors - a lot of the time you must use the map to find your way around and to spot the blips indicating approaching Xybots.

On each level you must whip around blasting the numerous robots, collecting energy pods and the spinning coins that allow you to buy extra powers between levels.

The game has some neat touches, when



Down on level 7 Rock takes cover behind a column. Those blips are pretty numerous - lower levels of the game are robot-infested.

one of the hunks makes it through to the next level he stands, hand on hip, impatiently waiting. If your partner is a little tardy in completing the level, you'll see and hear yourself dosing off.

Combat against the Xybots is pretty straightforward – you just zap 'em and try not to get zapped in return. Here and there are columns you can hide behind, and if you keep your eye on the map you can spot them coming and ambush them.

The game is a laudable attempt to do something a bit different to the combat genre. The arcade adventure format might look a bit old-hat to home computer gamers, but it's well worth a go – especially in two-player mode.

MIDNIGHT LANDING

Taito seem to have gone overboard with this cabinet; once you get inside you shut the doors and lock out the world. What that means is no over-the-shoulder stuff – but there is a rear-mounted monitor that lets spectators see what's happening. The game itself is a rather tricky flight sim, and not really what we've come to expect in the coin-ops. We hope to land you a detailed look at the gameplay real soon now.



HEAVYWEIGHT CHAMP

Sega – Price 20p

You can run, but you can't hide in this exhaustingly realistic box-em-up from Sega. Heavyweight Champ is the first coin-op we've seen on general release that actually requires you to put in almost as much effort as the activity it's simulating.

You play the game by grabbing hold of those handles you can see protruding from the cabinet. To punch you shove them in

In this way you can not only deliver those neck-snapping jabs, but a nice swinging hook and a few meaty uppercuts. The swivelling monitor also helps as you try to block or simply get out of the way of punches.

The game structure is pretty straightforward. You have to knock out four successive opponents before getting in the ring against



That's Alex Ainsworth out for the count.

and out or up and down. But that's not all; the upper half of the cabinet swivels on the base, allowing you to dodge your opponent and giving you a wider range of punches than you would get just from the levers.

This swivelling is largely responsible for the physical exhaustion you feel after a bout, and for the extraordinary postures you'll see players taking up in your local arcade. Some punters really get their legs back and their butts high as they wrangle with the machine in an attempt to deliver that KO punch that will take them on to the next opponent.

the world champ. If you're still on your legs after that you go on to title defences: the pugilists have suitably silly names – Michael Bison, for instance – and all resemble well-known fighters. Tommy Hearn and Marvin Hagler both seem to have been in the minds of the designers.

Make no mistake – if you're not prepared to put your back in to Heavyweight Champ it's just not worth spending your cash. It's not the most subtle or thoughtful game you'll play, but it's certainly the sweatiest and one of the most exciting. ♦



And here comes Tom 'Cyclone' Kaems – your second opponent.



A blur of action as Kaems closes in...



...oh dear! It's bye-bye Michael Bison and dig deep for some more 10p pieces.



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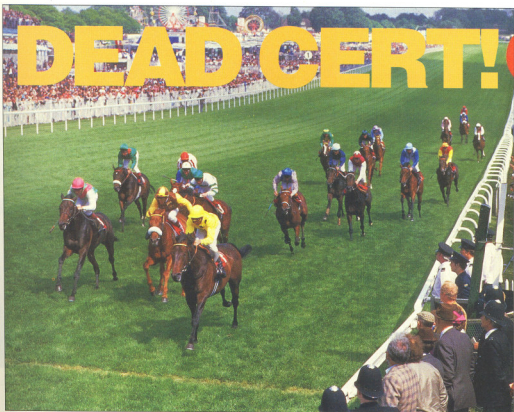
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REALTIME SOFTWARE





Could your micro tell the future? More importantly, could it tell you the winner of the 3.30 at Aintree? Believe it or not, the experts maintain that it could. Steve Cooke and Pete Connor order their Roller and get down to the track...

Let's not beat about the bush, we're talking pounds, shillings, and pence here. You've got a micro, you've scraped together enough to punt on Little Nell, or the pools, or the blackjack table, and you want to get rich. Impossible dream? Or plausible possibility?

Chances are your computer just might be able to turn the tables in your favour. It's not easy - you've got to accept quite a bit of preparation and hard work - but the end result could be a system running on your micro that will, in some areas, substantially increase your prospects of winning. Provided you never allow yourself to become a slave to the habit, and provided you always exercise common sense in not laying out more than you can happily afford to lose, the combination of computing and gambling can provide a lot of fun - and the possibility of a profit at the end of the day.

Computers can help the gambler in two ways - by brute force, or through 'artificial intelligence'. The first approach invokes the micro's power to manipulate and sort large amounts of data at high speed, spotting relationships that could take a human being months to work out. Doing this obviously involves the user in a fair bit of work as well - after all, the data has got to come from somewhere and you're the one with the fingers.

The AI approach is perhaps more interesting, but also difficult for most home micro owners to implement because of the lack of available software. This will almost certainly change during the next couple of years and the results could be very exciting. An AI program called BEAGLE (Biological Evolutionary Algorithm Generating Logical Expressions, if you please) assessed the form of 153 horses during the summer of 1982 and predicted four definite winners and thirteen hot favourites. All four winners actually won

their races, and of the thirteen other horses ten were first past the post. Pretty impressive stuff.

The brute force approach can have some startling results as well, however. The key factors here are the amount of data you can access and enter into your program (see the Data Sources box) and the skill with which the programmer can combine the factors, add weighting to various aspects of form, and select winners. David Stuart, who used to do computer tips for the Sun, once achieved an astonishing 60% hit rate over a flat season using this approach. In fact David Stuart himself is quite a phenomenon, as you can read in the Hot Tipster box elsewhere in this feature.

What we've done, then, is to take a look at some of the software currently available for punters. A successful program will demand a lot from its users, but you can be reasonably sure that the greater effort you put into it, the greater the potential reward.

You should remember, however, that even breaking even is quite an achievement in the gambling world – as in any other pastime, you usually have to pay for your entertainment.

COURSEWINNER

Selec Software

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BBC	£15.00cs	£18.00dk
CPC	£15.00cs	£18.00dk
PCW	£18.00dk	
IBM PC	£18.00dk	
ATARI ST and AMIGA versions due March/April, £18.00dk.		

Selec's Pete Chadwick describes *Coursewinner* as 'a tool' for weighing the factors involved in predicting the outcome of horse races – whether on the flat or over the sticks. He emphasises that 'it's not a magic system'; it uses exactly the same factors as a human with pen and paper would – it just deals with them much more efficiently.

To use the program you'll need a copy of *The Sporting Life* or *The Racing Post* – or at least a daily paper with detailed info on runners and riders etc. Factors such as weight carried, distance, going, speed factor, jockey's record can be taken in to account. In fact, there are 15 or 16 different pieces of data that can be entered for each horse in the race. The more you enter, the more effectively the program will do its job – but Pete Chadwick emphasises that you can use as many or as few of these factors as you wish.

Furthermore, before you run the computer analysis of the data, you can alter the 'bias' – that



David Stewart, computer tipster

A shining example of the fact that there's not just profit but a career in your computer is provided by 20-year-old David Stewart, computer tipster extraordinaire.

As a mere 14 year old David acquired a ZX81, onto which he transferred the manual record he'd previously stored in a shoebox. It seemed a logical step to work out a system for picking winners from the historical data available.

He wrote to his local paper, the *Northern Echo* in Darlington, who pitted his computer tips against their own human for a week. David's tips came out the better; he was taken up by Radio Cleveland, then by other local radio stations, then by *The Sun*. All of which led to his current job at *The Racing Post* in the information services department, working on a Prime minicomputer.

David's selections consistently outperform those of human tipsters; in one season

he had an amazing 60% success rate; he averages around 40% winners, as opposed to the 30% scored by other tipsters.

So how does he do it? The data he uses is exactly the same as anyone else's, but, he says, 'it's the percentages in which you combine the factors that's the important thing.' What that trick is he's not revealing, and he's not going to put his work on the market as a commercially available program; he thinks that the average punter just finds it too much trouble to enter the relevant data.

Neither has he made a fortune out of betting himself. He does think, though, that 'I've probably made more than I've lost over the years. But the real pleasure for me is in the ratings.' And does he think gambling is a mug's game? 'No – not if you treat it as a statistical exercise over a long period of time, and if you know something about what you're doing...



CASINO ROULETTE

CDS

Atari 8-bit	£9.99cs	£14.99dk
C64/128	£9.99cs	£14.99dk
Atari ST	£19.99dk	

Breaking the bank at Monte Carlo is many a gambler's dream. Most of us are unlikely ever to get near Monte, let alone make it to the casino and empty its coffers. But now – courtesy of the micro-



computer revolution – we can all break the bank from the comfort of that well-worn armchair in front of the monitor. CDS's *Casino Roulette* – due to appear around now – simulates the spin of the wheel and the thrill of the wager on both Atari ST and Amiga.

Furthermore, it gives details on playing six betting systems – and thus lets you try them out at without losing your shirt. Now systems are beloved of *Roulette* maniacs, and some of them certainly sound pretty lunatic. A very popular – and very simple – one in the past was the Martingale; all you have to do is double your bet every time you lose. Easy. But what happens if you have a losing streak of several spins? Lose twen-

BEATING THE BANK

— A History of Greed

The idea of trying to come up with a mathematical theory that could make precise predictions about the chance outcome of events is obviously very attractive to a gambler and was first taken seriously in the 17th century. It all started in Paris where the Chevalier de Mere made a small fortune by repeatedly betting that he could throw at least one six with every four rolls of a single die.

Unfortunately, he was so successful that very soon no-one would accept the bet. In 1654 he tried to get round the opposition by changing his tactics and betting that in 24 tosses of a pair of dice he would throw a double-six at least once. He had no problem with this bet at all — everyone wanted to take him on, for the simple reason that he kept losing. Although common sense seemed to dictate that the new bet was simply a variation on the old theme, practise proved otherwise and the Chevalier asked the mathematician, Blaise Pascal to find out what was going wrong.

Pascal was able to show that the odds in the first bet were 14 to 13 in favour (i.e. a probability of almost 52%, significantly better than even), but contrary to expectation the probability in the second bet was only just over 49% — hardly a winning proposition.

ALL SYSTEMS ARE GO

Once probability theory had got off the ground, other punters began a slightly different approach, coming up with betting systems that could maximise their profits. Again, the French were first past the post with D'Alembert's Method.

D'Alembert was the illegitimate son of a French aristocrat and a friend of several famous Parisians including Voltaire and Diderot. He was very keen on roulette, and developed a system of betting that increased his winnings as follows:

1. He would start with a bet of 5 francs, betting on either red or black. This ensured him a 50-50 chance of winning because in those days there was no zero on the roulette wheel. Nowadays roulette is a losing proposition for punters

because the zero gives the casino what is called a 'house advantage', whereby they pay reduced winnings when the ball lands in that slot (or in some cases no winnings at all).

2. After each win, he would decrease his stake by one franc, and after each loss he would increase it by the same amount.

3. If ever he found his stake reduced to zero by the method above, he would start again at 5 francs.

There is some surprisingly sophisticated theory behind this method. It really does work, and can increase a gambler's returns significantly whenever he is betting on a system that offers either an even chance or better. Naturally this is hard to do nowadays, but if you find that your prediction program is giving you better than even chances, D'Alembert's method should raise your income.

There have been numerous other systems developed, including some to help you win at blackjack (or 21, 'vingt-et-un'), the most famous probably being that devised by Edward Thorp in 1962. He started the craze for so-called 'counting systems' that involve the player memorising all the cards already played, and then adjusting his bets accordingly. His system is very effective and can swing the odds, which are normally in favour of the casino, the other way. The problem is that the level of winnings remains very low and — of more practical significance — people who 'count' and bet in the manner prescribed by the system can be recognised by casino staff and gently deposited on the pavement outside.

One of the most exciting aspects of artificial intelligence programs is that, unlike your average database, they can generate their own rules and 'systems' and test their effectiveness themselves. With computing power becoming cheaper and cheaper, it can't be long now before someone comes up with a home micro AI package that could show a significant performance on track, field, and table. Any bets?

Data Sources

Almost all home computer prediction programs rely on the user to enter data for them to analyse before they will come up with the goods (assuming they ever do). This is particularly important with horse racing, where a horse's form can be a strong determining factor in how well it does on the track.

Naturally you can't follow a horse around all the races, seeing how well it performs, but luckily there are people who collect all this information together for you. Best source of all is *The Sporting Life* newspaper, which publishes regular summaries of the performance of horses in the field. Not only is this presented on a race-by-race basis, but the

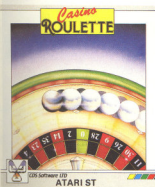
paper also occasionally prints special statistical summaries about particular stables.

This information is an absolute goldmine for the punter. *The Sporting Life* Form illustrated, for example, gives details on each horse's performance, age, genetic background, winnings history, weight carried and so on. Combine this information with that printed by the tipsters in the popular press

and you have some excellent raw material for your micro to get working on. BEAGLE, the AI program mentioned elsewhere in this feature, used the Daily Mirror Sportform in conjunction with information drawn from racecards and the *Sporting Life*.

MINE OF DATA

The *Sporting Life* Weekender costs 70p and gives page after page of analysis, presented in several different ways. Here you can see part of the racing form for a 4.10 race at Ayr. The information includes the season's placings on each horse, its age, weight, and other characteristics. Passages in bold type are useful comments on previous performances.



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ty times in a row and you'll be betting MILLIONS more than you started with. Not that many casinos would let you bet that much at once anyway.

The program plays several other systems, but programmer Nick Sen points out to us that in auto-mode with one computer player using a system and one betting at random, the random player came out on top.

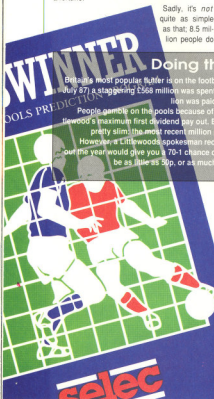
POOLSWINNER

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Winning the pools sounds simple – all you have to do is predict the results of the matches. Then if there are 8 draws and you get them all, you'll win a fortune.

Sadly, it's not quite as simple as that; 8.5 million people do



Doing the pools...

Britain's most popular fuffler is on the footballs pools. During the last season (August 86 to July 87) a staggering £568 million was spent on the coupons. Of that massive sum, £164 million was paid out in winnings.

People gamble on the pools because of the chance of winning a fortune – £1,000,000 is Littlewood's maximum first dividend pay out. But the chances of getting that kind of money are pretty slim: the most recent million pound winner was one out of 7.5 million.

However, a Littlewoods spokesman reckoned that betting a level stake of £1.20 throughout the year would give you a 70:1 chance of winning 'some kind of dividend' – which could be as little as 50p, or as much as that magical jackpot payout...

through the season, which you store on cassette or disk. It calculates league tables and predicts the most likely results. Also provided is a database of results for the past 10 seasons.

Naturally, you need a certain amount of tenacity to get the most from the software; you have to make sure you enter as many results as possible, Saturday and mid-week fixtures.

But how effective is it? Pete Chadwick of Selec points out that anyone who follows football could make a pretty good prediction of the result of, for example, Liverpool v. Charlton. But what about Bournemouth v. Wrexham? You probably haven't got a clue, but a program like Poolswinner will analyse past results and current form to come up with a prediction.

Pete Chadwick claims that people who use the program regularly come out with a profit. They might not win that million quid, but they won't be crying all the way to the pawnbroker. ●

THE ACE GRAND NATIONAL TIPS

The most famous horse race in the world takes place at Aintree on April 9th, and the runners and riders have just been declared as we go to press. It's with great pleasure then that we present the following selections from computer tipster David Stewart. Over 100 horses are possible contenders at the moment, but by the big day itself many will have been withdrawn – we can't guarantee that the horses we're selecting will actually start the race, so keep an eye on the racing pages both for news of withdrawals and for news of the odds on the horse you fancy.

HORSE

CURRENT ODDS

1. BY THE WAY

16-1

Won all four of his races last season, but did not run in the National last year due to injury. Likes good going and is a brave front runner, so if the ground is right for him he could start favourite on April 9th.

2. MICK'S STAR

16-1

Seems to be carrying a favourable weight and is capable of handling any kind of ground. Usually a very good jumper and is regarded by many as just the kind of horse for a race like the National.

3. WEST TIP

20-1

Won the National in '86 – and everyone likes a winner. Recent form hasn't been brilliant, but West Tip is a bit of an Aintree specialist and could pull out something special this year.

Best Outsider

SMITH'S MAN

100-1

Carries a very favourable weight – and it looks like he'll be carrying a lot of hopes from the punters in the ACE offices.....

Understanding the Odds

People are often confused by the way in which odds are expressed in betting terms, and how they relate to actual probability. Software packages often suggest several possible winning opportunities, and the secret of using the programs successfully is to bet selectively, combining your program's recommendations with your own selection of best possible odds. For this reason, it's important to understand what odds, as quoted by bookies, actually represent. Bookies quote two types of odds: 'odds against' and 'odds in favour' (or 'odds on'). What's more, they frequently use number pairings like '6 to 4', when '3 to 2' would seem more logical. The best thing to do is to convert all odds into a standard format which will enable you to compare prices on different horses more effectively.

To do this, you use the formula O/F=A, where O equals the standard format for odds in favour that we're looking for, F is the bookies' quoted odds For, and A is the quoted odds Against. So, if the bookmaker is quoting 6 to 4 against, the formula would read O=6/4, so O would be 1.5. Standard odds in favour would therefore be 1.5 to 1. Bookmaker's odds of 6 to 4 on would give us a formula of O=4/6, so O is 0.66 and standard odds in favour are 0.66 to 1.

If you're happier working with percentage probabilities, you can convert your value for O with the formula P=O/(O+1) and multiply the result by 100. So the probability percentage of a horse quoted at 6 to 4 against (where O=1.5, as above) would be P=1.5/(1.5+1), a probability (P) of 0.6, or 60%.

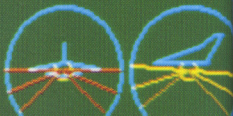


Phil Atkins, author of the simulator's 3D "front end", seen here in front of a Transputer-generated Mandelbrot Set diagram.



Steve Gibson, author of the flight simulator's innermost workings.

03:08.81
22



You want the world's most exclusive shoot-em-up? You want processing power beyond the wildest dreams of Archimedes owners? You're looking at it! This is the deceptively named *INMOS Flight Simulator*. It's from INMOS right enough – their mind-bogglingly powerful Transputers are the driving force here – but it's not really a simulator in the *Flight Sim II* sense. Though the game does feature runways, you don't take off or land – just fly, shoot, and stare in amazement. This is definitely one for the combat freaks!

POWERFUL STUFF!

The game was programmed by INMOS applications engineers Phil Atkin and Steve Ghee, writing in the parallel processing language Occam. Steve wrote the innards of the game in his spare time after seeing the Lucasfilms/Disney flight simulator while on holiday in the States. Phil already had a set of 3D display and shading routines which bolted on to the front of Steve's module to provide a working simulator after only two weeks!

As it stands the game can be played by up to four people at once, each with their own pilot's eye view of the game world, the winner being the last one still airborne. It runs on a system built out of standard INMOS development boards, the original using eleven assorted Transputers per person. By upgrading to top-of-the-range T800 Transputers throughout, Phil and Steve have now got



The INMOS water fabrication plant in Newport, where the Transputers are made.

the game running at 23 frames per second – a rate approaching the speed of professional flight simulators used for pilot training.

You'll probably see more of Phil's work in the near future: some of his rather fancier demo programs are currently being used to show off the Atari/Perihelion ABAQ workstation. Watch out for more details and pictures of ABAQ in next month's ACE. ●





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SCREEN TEST



This month's Screen Test is just bustin' out all over with 16-bit software – looks like the Amiga and ST owners are starting to get the choice and quality they've been asking for. But, just to remind us all that there's life in 8-bits yet, our highest rated game of the month is on

...the Spectrum! Zooming onto a screen near you is Digital Integration's *ATF*, one of the classiest flight and combat simulators we've seen in a long, long time. And those 16-biters will just have to eat their hearts out; *ATF* is 8-bit only. But there's some lovely stuff around for Amiga and ST. Anco's budget

Karting Grand Prix is a worthy – and noisy – rival to *Super Sprint*. Ere Informatique's *Captain Blood* combines snazzy French graphics with original – and playable – game design. And Melbourne House's *Xenon* probably marks the state-of-the-art end of the line for 16-bit scrolling shoot-em-ups. But it's not all fun out there. Check out Robtek's *Kwasimodo* for a creature



from the land that time forgot; Spectrum *Hunchback* four years ago had to be better than this.... And don't forget to consult our Updates pages on the latest versions of the latest games for your machine.



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● THE ACE REVIEWING SYSTEM

If you're new to ACE, a word of explanation is in order about our innovative reviewing system.

First off is the **PIC**. PIC stands for **Predicted Interest Curve**; it's an easy-to-use representation of how long we think your interest might be held by a game. Brilliant coin-op conversions will start high and then steadily tail off; games demanding some thought and planning will stay higher longer. Naff games start low and go nowhere but down.

The **ACE Rating** is a figure calculated to show the area underneath the curve. It's the games overall score, and is marked out of a 1000. Any game which scores over 900 is 'ACE

Rated", and is pretty damn good – see *ATF* for an example this issue.

As well as an ACE Rating each separate version of a game reviewed gets its own version box, giving you details specific to that version and a score for graphics, sound, fun factor and IQ factor.

These last two categories are there to give you an idea of whether the game demands much in the way of thought, is instantly enjoyable, packs an exciting punch, and so. A high **IQ Factor** does NOT necessarily mean that the **Fun Factor** will be low. *ATF* for example, scores a very reputable 6 on IQ and 9 on Fun Factor; it's

not just great fun, but something that also requires more than a little thought...

Release boxes on each review tell you how much the game costs on the different formats, and when they should be in the shops. Bear in mind that we can only pass on what the software houses tell us as to the date of arrival of a game.

"Imminent" means that that version should be in the shops by the time you read the review.

Each game is reviewed by one main reviewer, but is played by at least three of the ACE team; the final ratings and judgement are the considered opinion of us all.

KARTING GRAND PRIX

ANCO get on the grid

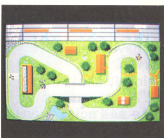
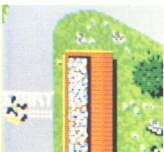
RACING games have been coming at us fast and furious of late, but this karting caper from Anco is still worth slowing down to have a look at. Not only does the gameplay compare very favourably with the likes of Super Sprint, but the price should prove very attractive as well.

As with other games of the genre you view the action from above. There's a choice of 8 tracks, starting with a fairly comfortable circuit and becoming progressively more tortuous. Control is, unfortunately, by means of joystick only. Since you have to press for-

ward to accelerate, sideways movement can be a bit of a problem. In the early phase of your karting career you'll inevitably spend more time crashing on the grass than racing round the track. A few laps of practice should see you giving the drones a run for their money.

Assuming, then, that you can actually make it round the various circuits the game should provide lots of fun - especially in two-player mode. It's very well executed and, at the price, should be investigated.

● Pete Connor



You're going flat out, but that computer drone has got you lapped

Amiga Version

Excellent graphics and even better sound make this very smooth indeed. Revving noises and braking, in particular, are almost - but not quite - as good as the real thing. While the view from above doesn't give the graphics the chance to be outstanding, they are more than adequate for the job. And then you've got a really groovy heavy-metal guitar on the loading sequence...

GRAPHICS 7 IQ FACTOR 2
AUDIO 9 FUN FACTOR 8

ACE RATING 844

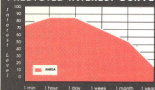
RELEASE BOX

AMIGA £9.95k OUT NOW

ATARI ST £9.95k IMMINENT

No other versions planned

PREDICTED INTEREST CURVE



Takes a little while to get control, but after that you'll want to do a lot of laps.

JET BIKE SIMULATOR

Watersports CODEMASTERS style

NOT content with releasing a string of high quality budget games, Codemasters have now introduced their Plus range.

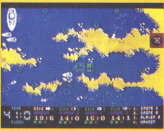
For just a couple of extra pounds, the player gets two versions of the same game. One version is standard, the other is a version for expert players. You can of course forget about the standard version and just play the expert version, if you so desire.

Jet Bike Simulator is one such Plus game and the player has a choice of three settings - lakes, coastline and dockland. On the standard version one or two players compete to finish the course (weaving in and out of the buoys in the correct order) within the time limit. For the expert levels you have the same courses but you have to finish the race

in at least third place (there are either two or three computer controlled drones, depending on whether you're playing solo or with a friend) to qualify for the next course.

The game plays extremely well and is very addictive, falling somewhere between BMX and Grand Prix Simulator in style. The standard version of the game is a shade on the easy side, but the addition of extra courses and the expert level means you'll be playing this for a long time to come.

● Andy Smith



SPECTRUM - on the third lap of the expert coast level. Looks like it's gonna be game over soon.

Spectrum Version

Colourful screens, but it's sometimes hard to distinguish between the individual jet bikes. Gameplay is great although the collision detection is ever so slightly out. This shouldn't spoil your fun too much though.

GRAPHICS 7 IQ FACTOR 2
AUDIO 3 FUN FACTOR 8

ACE RATING 819

Amstrad Version

Very similar to the Spectrum version, with a touch more colour. Again the collision detection's slightly out but it won't spoil your enjoyment.

GRAPHICS 7 IQ FACTOR 2
AUDIO 4 FUN FACTOR 8

ACE RATING 825

PREDICTED INTEREST CURVE



The extra features make for long-lasting fun.

RELEASE BOX

SPEC £4.99cs OUT NOW

AMS £4.99cs OUT NOW

No other versions planned

ROGUE computers are favoured subject matter for scenario writers, and those at Melbourne House are no exception. The computer in Roadwars was responsible for maintaining the many roadways that linked the moons of the planet Armageddon. Since the computer went haywire, the roads have been unsafe to travel, so it's down to you to restore order.

The player takes charge of one of two Battlespheres (your computer or a friend takes charge of the other) and the game involves travelling down a roadway and blasting away the malfunctioning panels that appear at the side of the road. The offending panels are easy to spot because

RELEASE BOX

AMIGA	£19.99dk	OUT NOW
SPEC	£8.99cs	OUT NOW
ATARI ST	£19.99dk	IMMINENT
C64/128	£9.99cs	IMMINENT



they are of a different colour and usually come in pairs, one on either side of the road, with a huge electric arc between them. Destroying one of the panels will remove the arc but you'll have to clear each roadway of all the disrupted panels before the exit appears and you can progress to a different, harder level.

These arcs are the least of your troubles, however - you also have to contend with various objects found on the roadways. These other obstacles include spikes, small balls that turn into spaceships, and satellites that appear at the roadside. All these hazards are destructive to your Battlesphere if you should happen to run into them with your shields down.

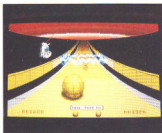
To aid you with your task you have a laser cannon with which to shoot out the panels and some of the hazards. But the

ROADWARS

MELBOURNE HOUSE let the sparks fly



SPECTRUM - Good graphics and better gameplay.



AMIGA - Very good looking, very hard to play

laser can only be operated with your shields down. Indiscriminate fire will not only remove the offending panels, it will remove any panel. Once you've only got a few pan-

els left on either side of the road it becomes very difficult to dodge the hazards and remain on the roadway, so caution when firing is recommended.

Extra weapons are available to help you with your task - whoever manages to run over an arrow icon in the road is graced with a drone that orbits his Battlesphere. The more arrows you manage to run over, the more drones you get, but if you lose one of your three lives you also lose any benefits you might have collected.

There's certainly plenty to keep the player busy in Roadwars but the game seems to be lacking something in the playability department. Control of your sphere is extremely difficult, and even if you master the controls you could find the fun soon disappears.

● Andy Smith

Spectrum Version

There are no drones in the Speccy version, but your main cannon gets a higher rate of fire every time you run over an arrow icon. Graphics are good but sound effects are nothing special. Generally the game plays a lot better on the Spectrum than it does on the Amiga, which just goes to prove that pretty graphics alone do not make great games.

GRAPHICS	7	IQ FACTOR	1
AUDIO	4	FUN FACTOR	7

ACE RATING 715

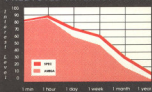
Amiga Version

The graphics are very good for the most part, and sound is satisfying. The choice of control method spoils the game to a certain extent, making it very tough to get into. As a direct result of this you could find yourself getting fed up with it sooner than you might have done.

GRAPHICS	7	IQ FACTOR	1
AUDIO	6	FUN FACTOR	5

ACE RATING 635

PREDICTED INTEREST CURVE



Despite the Amiga's wonderful graphics, the gameplay is very off-putting. The game plays a lot better on the Spectrum.

MACH 3

3D blasting from Loricels

WHEN his gal is slowly dying because of a spell cast by a nasty sorcerer, a man has little choice but to strap himself in to his Mach 3 plane and shoot the nasty creep.

That's the excuse for this shoot-em-up from France, featuring the usual high stan-



There you go - zooming across those mini-volcanoes and exploding mines.

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMS	£9.99cs, £14.99dk	OUT NOW
IBM PC	£24.99dk	IMMINENT

dard of graphics we've come to expect from across the Channel. The sorcerer in question is one Stax, the girl the lovely Gwendoline (more of her anon.)

Amstrad Version

Graphics consist of rather murky purples and yellows, and Gwendoline doesn't, of course, chat you up - but it's still pretty playable and those comets behave themselves better than on the ST version.

GRAPHICS 6 IQ FACTOR 2
AUDIO 7 FUN FACTOR 6

ACE RATING 622

Atari ST Version

The highlight of the ST Mach 3 is undoubtedly the digitised speech of what Loricels claim is a lass from the Fole Bergens. When you get a High Score she congratulates you with an ecstatic 'Oh, boy!', so it's one game in which you might be tempted to try for points rather than progress. Graphics are very neat, but there are some annoyances in the gameplay - in particular the often unavoidable comets.

GRAPHICS 7 IQ FACTOR 2
AUDIO 8 FUN FACTOR 6

ACE RATING 665

Mach 3 is a multi-stage 3D blast. Your ship - a corrugated projectile - flies into the screen. On the ground are mini-volcanoes spouting lava, and mines - fly into these and you die, shoot them and you get extra points.

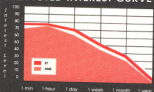
Enemy ships make an appearance, zooming in from the distance, and sooner or later you'll come up against the flaming comets - very difficult to avoid. Bonus points are earned by flying through tunnels consisting of goalpost-like constructions.

A similar method gains you access from the first, lunaz-like landscape, to the second scenario, where it is night and you can have a shot at the floating green head of Stax himself. Get through that and you continue to stages that are basically similar, even if the graphics are slightly re-jigged.

Although it impresses with its graphics, Mach 3 fails to really grip as a game. The action is too repetitive, and the challenge not quite tough enough or interesting enough.

● Pete Connor

PREDICTED INTEREST CURVE



Pretty enough to get you interested, but it isn't going to have too much long-term challenge.

...TRAZ

CASCADE knock their balls around

TRANSFORMABLE Arcade Zone is rather a flash title for yet another Breakout clone bashing its way onto the market. Is there anything left in this 14 year-old genre to generate excitement? Or are Cascade mere-

zonally against another. Vertical joystick movements move one bat and horizontal joystick movements move the other. It's terrifying stuff, and as if that wasn't enough, in two player mode the control of the players' bats changes randomly - it's a real reaction test as you line yourself up to deflect a ball only to have the bats suddenly change.

When you've got up to four bats on screen and a multitude of balls whizzing everywhere things can become very confus-

ing. If you're used to breakout games that give you really helpful bonuses to equip your ship with missiles etc, then some of the wacky benefits available in Traz just have to be seen to be believed.

Cascade have managed to produce a game that is not only addictive but is full of wacky fun.

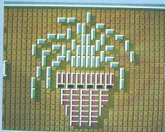
● Andy Smith

RELEASE BOX

C64/128	£9.95cs, £14.95dk	OUT NOW
SPEC	£9.95cs	IMMINENT
AMS	£9.95cs, £14.95dk	IMMINENT
IBM PC	£19.95dk	IMMINENT

ly flogging a dead horse?

Well for a start, Traz offers the player the chance to compete simultaneously with a friend in attempting to clear the 64 screens. Secondly, Traz offers the player a multitude of bats with which to deflect the ball and destroy the bricks. These come in a variety of styles - some screens even provide the player with two bats. One moves vertically against one wall while the other moves hori-



Just one of the 64 reaction-testing screens. You'll need superb hand-eye coordination if you hope to clear the other 63 as well.

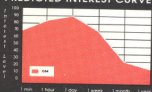
C64 Version

The screen designer feature adds an extra element to an already interesting game. The graphics are colourful and well-drawn and the animation is smooth.

GRAPHICS 7 IQ FACTOR 7
AUDIO 7 FUN FACTOR 7

ACE RATING 789

PREDICTED INTEREST CURVE



This high class reaction testing game will keep you playing until your brain aches.

UNHOLSTER your Light Phaser for this dose of interactive shoot-em-up. There are five stages in the game and three difficulty levels. The player's aim in each stage is to rescue up to eight fellow soldiers who've managed to get left behind in enemy territory. So you fly in and pick them up, yes? No. Well then you have a tank or jeep and go charging in, don't you? No. In fact you use a hand pumped railway cart (with machine gun) and you follow a series of tracks around the various screens picking up your mates as you go.

Of course, the enemy are out to thwart

RELEASE BOX

SEGA	£19.95or	OUT NOW
No other versions		

your plans, firing rockets of various shapes and sizes at you, and this is where your Phaser comes in handy. Point the gun at the telly and blow the enemy away with a pull of the trigger. Fortunately, the baddies don't seem at all interested in your stranded chums so their only worry is that your aim is not too hot. Bump off one of your chums and a small angel heads for the great scenario in the sky. Rescue a friend and he'll leave

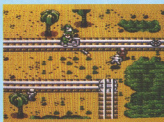
RESCUE MISSION

SEGA shoot-to-kill

behind a smart bomb. Shoot this and all the on-screen baddies bite the dust.

Having your finger on the trigger and the lives of your chums in your hands can be great fun. It's a real shame that the game's too easy to be interesting like a lasting challenge. Even on the hardest stage it shouldn't take too long to master. Terrific fun that's short-lived.

● Andy Smith



Pump that cart, rescue that soldier, waste those baddies.

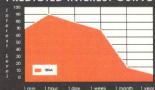
Sega Version

The graphics are very good, but the music is monotonous. The Light Phaser performs well during the game but the overall design of the gun leaves a bit too to be desired.

GRAPHICS	8	IQ FACTOR	2
AUDIO	6	FUN FACTOR	9

ACE RATING 739

PREDICTED INTEREST CURVE



Terrific fun that doesn't last long enough.

GRUB is the root of all evil in this very pretty and smoothly scrolling shoot and collect game. Overpopulation of our planet has led to the construction of an enormous space station housing thousands and producing food for Earth. Problem is, those nasty aliens have taken over. And guess who's got to clear up the mess?

Northstar's a smooth-moving sideways scroller. Equipped with your extending robotic arm, you have to zip along and zap the

NORTHSTAR

GREMLIN scroll sideways

Northstar is by no means an original game; it's got elements of Exolon, Gyrzor and

Green Beret in there. But it's very well put together and provides a demanding shoot-em-up challenge.

● Pete Connor

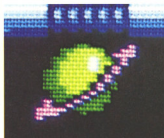
RELEASE BOX

AMS	£9.99cs, £14.99dk	OUT NOW
SPEC	£7.99cs, £14.99dk	IMMINENT
CS4128	£9.99cs, £14.99dk	IMMINENT
ATARI ST	£19.99dk	APRIL

aliens. Along the way there are bonuses and extra weapons to be collected by smashing cylinders and collecting their contents as they float up the screen.

Whenever you fail to smash an alien, and make contact instead, you're thrown off the runway and into the moat which runs alongside. This sometimes adds an unwelcome spot of frustration to the proceedings, as it's not always possible to avoid the aliens. Fortunately, you're not sent all the way back to the beginning of the game.

The extra weapons you can collect include such useful things as smart bombs, a vertically-firing laser and invulnerability. But be warned - these extras are none too easy to find.



Sliding around and making good use of your extending robotic arm.

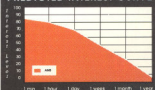
Amstrad Version

Excellent, colourful graphics mean that Northstar is very pleasing to look at. Sound doesn't quite match the visual flair, but there's a jaunty enough theme tune. Your character is very nicely animated and the way he slides around when stopping is particularly cute.

GRAPHICS	8	IQ FACTOR	2
AUDIO	6	FUN FACTOR	7

ACE RATING 680

PREDICTED INTEREST CURVE



Good blasting fun for a while - but not a distance runner.

THINGS seem to be stirring at what was once Augus Press Software and is now, somewhat grandiloquently, named Grand Slam Entertainment.

Basically, Brian, they seem to be bringing out some decent stuff. Following the passably good *Red October*, we now have the passably better arcade adventure *Terramex*.

The very words 'arcade adventure' may bring you out in goosebumps as you remember all those wacky pick-up-and-use games of yore, and to be honest, *Terramex* isn't exactly the most original game you'll see this decade. But it is pretty enough (on 16-bit versions, at least), funny enough and

just about tough enough to tickle anyone's fancy.

The plot involves you in the search for the brilliant but scorned Professor Eyestrain. Since delivering his warning of the arrival of a, literally, earth-shattering asteroid he's gone AWOL. Not surprising since nobody took him seriously. Now, of course, that asteroid is on its way and only Eyestrain can save the world.

At the beginning of the game you are given the choice of playing one of four characters, each of them the kind of national stereotype we've come to know and love: Fortisque-Smith, the pith-helmeted Englishman; Wu Pong, the diminutive Chinaman,



AMSTRAD - Fortisque-Smith on his flying hover, dodging some of the nasty pterodactyls.

TERRAMEX

GRAND SLAM'S pretty arcade adventure

Atari ST Version

Very neat and smooth, with extremely pretty graphics. The sound is jolly enough, if not outstanding.

GRAPHICS 9 IQ FACTOR 7
AUDIO 7 FUN FACTOR 7

ACE RATING 808

Amiga Version

Prettier of those we've seen. The cartoon graphics suit the machine very well indeed, and the jaunty music provides a suitably er...jaunty accompaniment.

GRAPHICS 9 IQ FACTOR 7
AUDIO 8 FUN FACTOR 7

ACE RATING 808

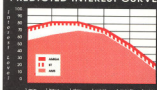
Amstrad Version

Graphics are colourful enough, but are just a little on the blocky side and, hence, a trifle indistinct. The sound's no great shakes either - but these drawbacks don't prevent it from still being an enjoyable and playable game.

GRAPHICS 6 IQ FACTOR 7
AUDIO 6 FUN FACTOR 7

ACE RATING 703

PREDICTED INTEREST CURVE



Plenty to explore, plenty of puzzling and the cute graphics should all conspire to keep you at it.



AMIGA - Down in the underground cavern, Wu Pong dances along with his magic flute. Is it going to save him from those nasty snakes?

and so on to include a Frenchman and a German.

The different nationalities have a purpose in making the game more varied, since certain objects can only be used by certain characters. What possible use, for instance, would Wu Pong have for a cricket ball? And which character might just be able to do something with it?

Once your character is selected, off you go into the strange landscape of the game. First of all you will light on a vacuum cleaner, assuming you avoid one of the many man-eating plants that proliferate. The Hoover takes you flying up to another screen composed of clouds and pillars, where there are bags more objects to accumulate. Finding a trolli allows you to come back to earth and even nip underground - but unless you've found a certain object along the way, you won't get past the nasty

snakes.

In order to carry all these objects you have a pretty large contingent of native bearers (more stereotypes). To select an object for use you scroll along the bearers and then pick the thing you want. This is a fairly smooth method, but can cause a few flutters if you need to swap objects when you're under pressure.

The fun of *Terramex* comes from its combination of exploration and deduction. While you may find certain areas easily enough, you won't be able to get through them without the right object, and working out exactly which one you need is not always a simple task.

While it's a little old-hat in terms of inspiration, the game is accomplished graphically and musically; it's fun to play even if you're not getting very far.

● Pete Connor

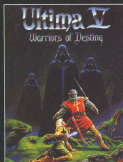
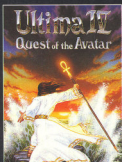


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AIR COMBAT YESTERDAY..



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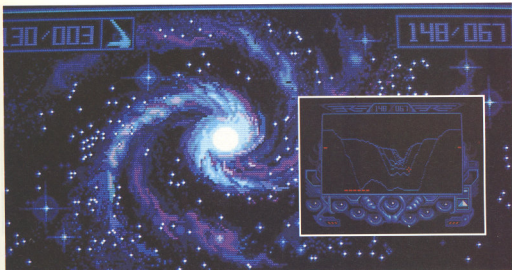
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The galaxy. Set your co-ordinates and hit the hyperspace button, then power through a valley (inset) in search of some extraterrestrial conversation.

CAPTAIN BLOOD

INFOGRAMES graphic stunner

CLONES are what you're after in this space adventure/quest game from across the channel. Five clones to be precise, the only five still left to be collected out of the original 30 that resulted from an explosion in space some 800 years ago.

The player takes the part of Captain Blood and has to search a whole galaxy of planets in his Ark for his elusive replicas. The game revolves around interacting with various alien characters that can be found on certain planets. The interaction is effected by stringing icons that represent words and phrases into questions or answers, and then deciphering the aliens' replies.

While this is the backbone of the game, several other sub-games can be found within it. Once you have the co-ordinates of a planet where you think you may get help, you travel there by hyperspace and transfer down to the planet's surface where you suddenly enter an arcade-style sequence as you try to guide your ship over mountains and through valleys (with the aid of a direction indicator on the cursor) to locate the alien. You then 'interact' and hope that he/she/it can provide you with more information to aid you on your journey.

There's certainly enough of a quest here to keep a fan of this game genre going for a long time. Thankfully, the game can be saved to disk which means you don't have to worry about completing it all in one go. If you like games that require real involvement and you think you could put up with



And here you've found someone to natter with.

some of the more repetitive aspects of the game, then Captain Blood could be just the sort of thing you're looking for. The game is surprisingly playable and extremely involving.

● Andy Smith

Parlez-vous Izwal ?

We should point out that we played the French version of the game. We are assured, though, that no gameplay is to be altered during the translation of icons etc to English. Infogrames say that the only differences in the English version would relate to extra features — notably more music, which can do nothing but add to the already high quality of the game.

RELEASE BOX

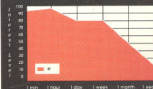
ATARI ST	£19.95dk	OUT NOW
AMIGA	Price undecided	IMMINENT
No other versions planned		

Atari ST Version

The graphics are among the best yet seen for the ST. Animation is super-smooth, and the various aliens are all superbly drawn. It's a treat to see a programme that seems to use the 16-bit processing power of the ST to its full advantage.

GRAPHICS	9	IQ FACTOR	7
AUDIO	8	FUN FACTOR	8
ACE RATING 887			

PREDICTED INTEREST CURVE



A superbly-presented game that will keep you hooked for a long time to come.

THE ART OF CHESS

SPA make their move

UNTIL recently Amiga chess players had only EA's Chessmaster, good though it was. But now we have another contender at the board, in the shape of *The Art of Chess*. How does it shape up? Can it dethrone Chessmaster?

Probably not. The problems with program have nothing to do with its ability at chess, but rather with its sprites. The Art of Chess just doesn't look good enough, whether in two or three dimensions. In 3D visibility is very poor, with a back-row piece, pawn and knight in-line its extremely hard

whose design just doesn't give him the importance he deserves.

In other respects, though, the program has everything you could want. It talks - if you want it to: you can rotate the board, force moves, play through a library of classic games, change sides. You can also change the default colours to other settings - thus producing a much more visually pleasing display than the one you start out with.

We haven't been able to play off this program against Chessmaster, so we can't comment definitively on their relative playing

RELEASE BOX		
AMIGA	£24.95dk	OUT NOW
No other versions yet		

to pick out the individual pieces.

While 3D displays are nice to have, none of them are perfect, and most players will probably prefer to use the 2D option. Unfortunately, *The Art of Chess* disappoints here as well. While the pieces are now clear enough, their design is unattractive, with top-heavy rooks and knights and a king



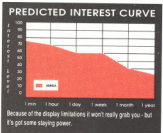
The Art of Chess in 3D mode. Note the 'Time Travel Gadget', allowing you to take back moves, resume the game, or restore moves.

strengths. But *The Art of Chess* will definitely give you a very good run for your money. And as well as its three ordinary settings you can also customise the level of play by setting response time and aggression meters.

The Art of Chess has some very attractive features which make it well worth a look, but sadly it is let down by a lack of attention to the details of display.

● Pete Connor

Amiga Version		
Those display problems take the edge off what could have been a very interesting effort. Just a wee bit more thought about sprite design would have made all the difference.		
GRAPHICS	5	IQ FACTOR 10
AUDIO	7	FUN FACTOR 7
ACE RATING 702		



NIGEL MANSELL'S GRAND PRIX

Turbo boost the MARTECH WAY

FOLLOWING poor of Nigel's very near miss last year in the World Championship, everybody will be rooting doubly for him again this year. Martech especially so, because a successful season for Nigel could filter back to Martech's bank balance.

So does the game get into top gear? And does it have the fuel to keep in the running? Quite simply, yes. With 16 circuits modelled

on the real tracks and with anything between 43 and 82 laps per race, a season's going to take a long while to complete. Thank heavens for save game options. If the screen display looks unrealistic to you, then that's because all the information that is nowadays available to the driver (through computer and radio links) is displayed on this panel. So now when messages flash informing you that every car except yours has pulled into the pits for a tyre change, you can reconsider your strategy.



Blazing a trail around the Japanese circuit of Suzuka. Lets hope that they hold.

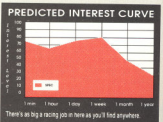
Spectrum Version		
Graphics are monochrome (though the colours do change for each course) and are well drawn. Sound is surprisingly good considering the limitations. That save game option means you will keep you playing for a long time to come.		
GRAPHICS	7	IQ FACTOR 6
AUDIO	8	FUN FACTOR 7
ACE RATING 795		

RELEASE BOX		
SPEC	£9.99cs	OUT NOW
AMS	£9.99cs, £14.99dk	IMMINENT
C64/128	£9.99cs, £12.99dk	IMMINENT

Gameplay is satisfyingly tough, and incorrect use of gears can have you wasting valuable power and fuel, so it's as well to practise with the car for a while before you start on some serious competing.

Despite some rather dubious collision detection (usually to your advantage for a change) during the races, the game will certainly provide you with a challenge, but not one that is impossible to meet. A game for racing fans who look for a long-term overall challenge.

● Andy Smith



AFTER BURNER

The right stuff from SEGA?

SKY high, mindless blasting has always been a successful coin-op formula, and it's no wonder then that *After Burner* has had such a good run in the arcades. The action is manic and constant; the graphics superb. Add to that a huge sit-in cabinet that rocks and rolls all over the shop and you've got one mean (and expensive) arcade console. Take away the cabinet and make a stand-up version, and the game loses something. It's still got all the action, sound and graphics but it's not so beat any more.

RELEASE BOX

SEGA £24.95 OUT NOW

Micro versions from ACTIVISION planned

Convert the game to a home console and does the game lose anything else? Superficially no; in reality, yes. The whole game is still present and the plot hasn't changed. Fly your F-14 Tomcat through stage after stage of enemy territory and try

to wipe out as many of the enemy fighters that appear from in front and behind as possible. You're still armed with a front firing machine gun (aimed with the aid of a small on-screen square that moves with your plane) and missiles (fired when your sights lock-on to an enemy plane or missile). Now that all sounds good, so where's the problem?

The lack of playability is the game's biggest problem - the arcade version was diabolically tough until you got used to the controls (or where the safe points on the screen were) but that is not the case with the



In the thick of the action. Don't even consider ejecting.

console version. The action's still manic and constant but the game's nowhere near as tough and it loses most of its addiction very quickly. *After Burner* on the console is one of those games you may come back to time and time again, but only for short spells.

Andy Smith

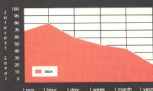
Sega Version

As seems to be the case with most Sega games, the graphics are very good but the music is dull. Playability problems mar an otherwise competent arcade conversion, and don't expect your grey matter to be too severely taxed.

GRAPHICS 8 IQ FACTOR 2
AUDIO 6 FUN FACTOR 8

ACE RATING 702

PREDICTED INTEREST CURVE



Very playable for short spells.

THE KRYPTON FACTOR

Accept the challenge from TV GAMES

DEFINITELY not a game for one player only, this program is a brave but uninspiring attempt to convey the excitement (if any) of the popular TV series.

Up to four players choose a game character from a list of eight, represented on-screen by a digitised portrait and a brief biography. You can enter your own occupation, age, and home town if you want, but these details don't reappear in the game.

There then follow six challenges, each one a separate load (best make sure you have a tape counter) testing your powers of observation, short-term memory, physical control, and general knowledge. At the end of each round the scores and running total

are shown and at the end of the game there's a brief victory display (just a static screen with a trophy) for the winner.

The physical control sections involve tapping different keys at different rates simultaneously, either to propel an 'Engobuggy' across the screen, or to tackle the 'assault course'. All the sections are dominated by strict time limits, except the 'Observation Round' in which you spot differences in pictures and short stories. The problem here is not too little time, but too much of it - those not playing at the time have nothing to do.

This game offers a modicum of fun to a family of four who want to gather round the monitor. You could play with less participants but it wouldn't be as enjoyable. For the solist it's a waste of time.

Steve Cooke



AMSTRAD - Piloting the Engobuggy involves tapping different keys at different rates - a test of co-ordination that sounds difficult in theory but disappointingly easy in practice.

RELEASE BOX

SPEC £7.95 OUT NOW

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C64/128 £7.95, £10.95 IMMINEENT

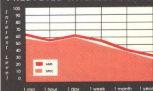
Amstrad Version

Not very exciting graphically and lacks sound during play. Some sections would benefit from a joystick option. The 464's inbuilt tape counter makes the multi-load a little more bearable, but the combination of loading delays and waiting for others to take their turn does nothing to enhance gameplay.

GRAPHICS 5 IQ FACTOR 7
AUDIO 3 FUN FACTOR 5

ACE RATING 641

PREDICTED INTEREST CURVE



Once you get over the slow pace and poor controls, interest peaks then slowly fades away.

Spectrum Version

Digitised pictures display poorly on this machine and the graphics are generally slightly inferior. Plus 2 owners lacking a tape counter may turn over occasional loading errors, but otherwise there is little difference between this and the Amstrad version.

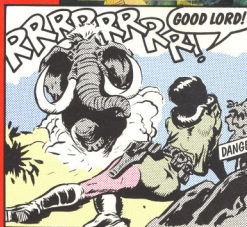
GRAPHICS 4 IQ FACTOR 7
AUDIO 1 FUN FACTOR 5

ACE RATING 616

FAR AWAY IN A LAND
WHERE TIME STOOD STILL ...

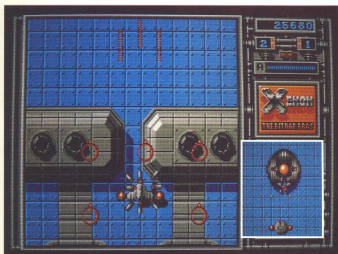
... A SUDDEN ROCK-FALL
THREATENS TO KILL OUR HERO

ARGHH!!



OH NO!!
CANNIBALS

ocean



ATARI ST - Coming up to the end-of-level guardian, and it's a good job you've got some extra firepower. Hit him enough times (inset) and his nose will flash - now go for his mouth.

XENON

MELBOURNE HOUSE have the last word?

COMPETENT 16-bit programmers are in short supply at the moment (all that's bound to change soon) so it's jolly nice to see a product coded by not merely competent, but good, programmers (the Bitmap Brothers). These chaps at least have some inkling as to how to use all that extra memory etc to its full advantage. Whether they should have demonstrated their talent with yet another vertically scrolling shoot-em-up is another matter.

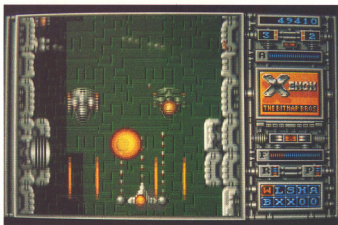
Considering it's a coin-op conversion, the standard-issue scenario comes as no surprise - fly your craft through four stages of alien

RELEASE BOX

ATARI ST	£19.99dk	OUT NOW
AMIGA	£19.99dk	OUT NOW

No other versions planned

territory and try to destroy as much as possible. The first sector has the player in charge of a space craft that can alter between a ground vehicle (for destroying ground-based aliens and installations) and an airborne fighter craft (for flying attackers). Changing between craft is simply a matter of giving your joystick a quick waggle (or if that poses problems you can just hit the space bar). The overall idea is to simply survive to the end of the sector and destroy the end-of-level guardian. Lots of extra weapons are there for the taking (xxxxxxxxx multiples, laser cannons, extra shields etc) - simply destroy certain



AMIGA - At the start of level two - with no extra weapons as yet, you've certainly got your work cut out.

installations or the odd wave of aliens and collect the resulting symbol.

If the first sector gave you the choice of ground or airborne craft, the second gives you fighter craft... or fighter craft. The idea again is to survive the onslaught from the various installations and aliens occupying what looks like a tunnel you're flying through.

The third section is similar to the first, again with a choice of craft, and the fourth is a real race against the clock as you try to reach the end of the section. Despite the dull scenario, where *Xenon* really scores is in its playability. The end-of-level guardians can

be a problem until you learn their movement patterns, and the majority of the bonuses appear at the same place each game, so it's not too difficult to plan your route. The Bitmap Bros have managed to strike that fine balance between frustration and addiction, and have produced a wonderful game. It's just a shame all this sort of thing has been seen and done before.

● Andy Smith

Amiga Version

The sound is superb, the graphics are wonderful, and the gameplay is terrific. *Xenon* must be one of the best coin-op conversions to appear on the Amiga (not surprising considering the actual coin-op version is based around Amiga boards). A very competent albeit unoriginal game.

GRAPHICS	8	IQ FACTOR	2
AUDIO	8	FUN FACTOR	9

ACE RATING 869

Atari ST Version

The graphics are superb, the installations and explosions are wonderfully-drawn. Sound consists of some atmospheric tunes and great explosion effects. Control of your craft is good, though you can find yourself changing craft at a crucial moment simply because you were 'wagging' the joystick.

GRAPHICS	8	IQ FACTOR	2
AUDIO	8	FUN FACTOR	8

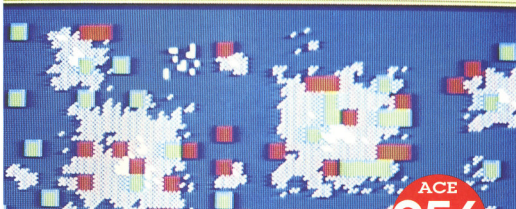
ACE RATING 863

PREDICTED INTEREST CURVE



A well-presented game that provides a fair slice of lasting interest.

WAR REPORT - INTELLIGENCE



The state of the war, on Rookie level; you're purple, allied forces are green and the enemy's red.



Armed up with Maverick homing missiles.



Ready for take-off!

ATF

ACE
956
RATED

DIGITAL INTEGRATION fly out

LOCKHEED fans must be having a fine old time of it just at the moment: scarcely have MicroProse got their F-19 game Project Stealth Fighter airborne when Digital Integration wheel this one out of the hangar. Based on the Advanced Tactical Fighter, the F-19's stealthy successor, the game's something of a departure for DI. Rather than producing another simulation in the mould of Tomahawk or Fighter Pilot, this time DI have gone for some very arcade-ish blasting action – combined with the strategic depth you'd more normally associate with them.

The move away from slavish simulation takes you out of the cockpit so that you view your plane from above and behind. The viewpoint is fixed so that the horizon stays

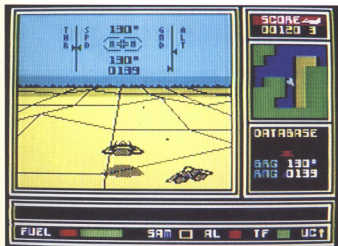
level no matter how you climb, dive or bank, and is far enough back that you can see enemy interceptors on your tail. Aside from the joystick your only aircraft controls are the keys for throttle, undercarriage up or down, and two very handy auto-pilot modes. The first of these, terrain-following, makes landscape hugging a cinch while the second lands your plane automatically for you.

Once you've got the hang of flying – steer, dodge opposing fire and don't fly too fast at low level – you're ready for the game's real guts: combat. The wrap-around game 'world' of sea, snow, beaches and scrubland is the setting for a full-scale war, your task being quite simply to swing the odds in your own side's favour. You won't be given mission objectives: you'll have to work out priori-

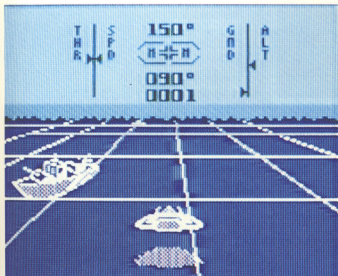
RELEASE BOX			
SPEC	£8.95cs	£12.95dk	OUT NOW
AMS	£8.95cs	£13.95dk	IMMINENT
C64/128	£8.95cs	£12.95dk	IMMINENT

ties from intelligence reports and your own sightings, arm up appropriately and get stuck in.

Once you've loaded up with cannon shells for air-to-air combat, ASRAAM and Maverick missiles for surface targets and fuel to get you there, you can home in on a suitable foe taking your bearings from your onboard computer. Enemy interceptors will



There are enemy tanks 130km away — almost in range — but there's a fighter on your tail!



Out over the sea, flying past an enemy warship. Time to turn and strafe it?

harass you along the way, pouncing on you from behind or bearing down on you from dead ahead, guns blazing. Cannon shells will finish them off nicely, but being of little strategic value interceptors are often best simply avoided. Your real targets are the enemy's ground and sea forces, air bases, communications centres and — most important of all — the factories he depends on to replace his losses.

Once you're within 100km or so of one of these you can let fly with a Maverick: they home in of their own accord, and can usually do the job without you ever actually seeing the target. If you've loaded up with ASRAAMS instead you'll have to close in until you can see the target, and then guide the missile manually. This means a

greater cost in fuel and (to start with) an awful lot of misses, but since they weigh far less ASRAAMS can be an attractive choice for short range heavy-duty missions.

As you gain in experience you'll soon find that, even on the lowest of the game's eight levels of difficulty, you can't defeat the enemy simply by destroying the targets intelligence reports tell you about. The only way to make real progress in the game is to fly into known enemy hotspots — you can pinpoint these on the map before each sortie — and find the targets yourself. The onboard computer will inform you of enemy installations or forces as you approach them, and you can then proceed as before.

Interceptor shots will decrease your engine power and damage other systems



A bar graph shows the balance of power

Spectrum Version

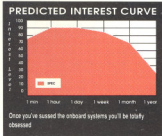
The landscape rushes beneath you very impressively indeed, the ground targets are well-drawn and the 128K sound is spot on. A great all-rounder then, and a good move for DI.

GRAPHICS 9 IQ FACTOR 6
AUDIO 6 FUN FACTOR 8

ACE RATING 956



Back at base, it's debriefing time.



Once you've sussed the onboard systems you'll be totally obsessed

until you're forced to land for repairs or brought down altogether, but they aren't the only hazard. SAMs (Surface-to-Air Missiles) will wreck you outright if you don't hit the jammer key in time, and since losing three planes ends the game regardless of the way the ground war's going it's vital that you stay alert.

Though the size of the task is limited — the game world is always the same size whatever level you play on — the initial disadvantage you start at steps up from nothing on Rookie to chaotic on the ATF Ace setting, giving plenty of lasting interest. It's got the same instant addiction and strategic depth of Durrell's old *Combat Lynx* wedded to state of the art graphics: very playable stuff!

● Andy Wilton

CHAIN REACTION

DURELL clean up the mess

NUCLEAR power's always a good excuse for a game. In this one the Anti-Nuclear party have done all sorts of nasty things in the reactor, and you must sort out the mess, collecting and then disposing of the radioactive rods. It's got a clever almost-3D view and interesting jet-pack

RELEASE BOX

CGA128	£3.95cs, £3.95sk	OUT NOW
SPEC	£3.95cs, £12.95sk	OUT NOW
AMS	£3.95cs, £12.95sk	OUT NOW

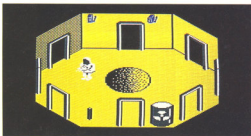
PREDICTED INTEREST CURVE



ACE RATING 536

propulsion mode. Graphics are neat but not special. An enjoyable game that looks just a little old-fashioned.

● Pete Connor



ZYBEX

Action-packed blast from ZEPPELIN

RELEASE BOX

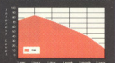
CGA128	£2.95cs	OUT NOW
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No other versions planned

entertaining two-player option, Zybox is a bargain blast to investigate.

● Pete Connor

PREDICTED INTEREST CURVE



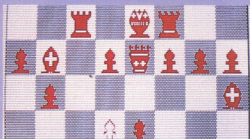
ACE RATING 758

VERY smartly produced and very exciting budget shoot-'em-up. There are umpteen levels of blasting, and umpteen different weapons to collect and use. Graphics and scrolling are top-hole, and the sound effects suitably atmospheric. With an



CHECKMATE

Cheap chess from PRISM



16-BIT chess at this price has got to be worth considering. While Checkmate doesn't have the 3D sophistication of some programs, it has a clear enough 2D dis-

play - and, if you so desire, you can redesign the pieces. It's by no means as strong as some full-price ST chess progs (see last month's Brain Games article) but it's certainly cheap and cheerful.

● Pete Connor

PREDICTED INTEREST CURVE



ACE RATING 665

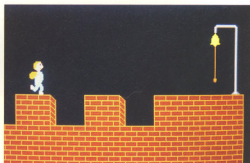
RELEASE BOX

ATARI ST	£3.95sk	OUT NOW
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No other versions planned

KWASIMODO

ROBTEK'S humpty dumpty?



THIS arcade action game puts the player in charge of Kwasi as he struggles through 25 levels in the attempt to rescue Esmeralda. The graphics and animation are extremely poor. Sound too is very bad and the game itself is

no fun to play. Definitely one to be missed.

● Andy Smith

RELEASE BOX

AMICA	£3.95sk	OUT NOW
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No other versions planned

PREDICTED INTEREST CURVE



ACE RATING 160

SPACE RANGER

Environmentally sound Defender-clone from MASTERTRONIC

DEFENDER is still one hell of a gem, so we shouldn't dismiss derivatives out of hand. Space Ranger gives the humanitarian aspect of Defender a twist by turning the critters you must rescue into cutesy-wutesy mutated animals.

The action takes place on the planets of

the Beta Crucis system, where the evil Morgandians are trying to abduct, enslave and destroy the indigenous lifeforms – all in aid of the racist religion they follow. You, as one of the Space Environmental Protection Rangers, have to save the critters.

You fly around in your space suit, armed with a laser pistol and carrying an endless supply of nets with which to save the wee beasties. The capturing is easier said than done; while some Beta Crucians are sluggish

and earthbound, others will insist on flying around in circles or bouncing all over the place. Given your inertia and the fact that you'll have to use the spacebar to drop nets, this capturing can be a frustrating business.

And, of course, you haven't got things all your own way. Your radar display at the bottom of the screen shows not only the creatures you must rescue, but also the slaves who are carrying them to the Morgandian transporter. You'll have to blast slaves while trying to avoid hitting the critters they're carrying. As levels progress, the slaves get nastier and become more of a problem.

There's a good variety of creatures and landscapes in Space Ranger, all of them very pretty drawn. While the number of levels is pretty limited – to eight, in fact – the action gets fast and exciting enough to make this very derivative game worth a look.

● Pete Connor

RELEASE BOX

AMIGA £9.99dk OUT NOW
No other versions planned

Amiga Version

Very pretty indeed, with tolerable rather than outstanding sound effects. If you have a joystick with two independent buttons you'll do OK; it can be tricky using joystick and space bar.

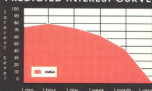
GRAPHICS 8 IQ FACTOR 2
AUDIO 6 FUN FACTOR 7

ACE RATING 745



Down on Beta Crucis 3, the Morgandian transporter has got a poor little critter in its beam – blast it, free the beastie and then net it to score points and warm the cockles of your heart.

PREDICTED INTEREST CURVE



Easy to slip into and very jolly while the fun lasts.

MOLLS: violin cases, Thompson subs – they're all here in Microsoft's latest and long-awaited addition to their Cinemascope range.

Don your pinstripe and spots and swagger down to the nearest speak-easy as this programme takes you back to the good old, bad old, days of American gangster life in the early thirties. Capone has just lost his crown as king of the windy city and as a young ambitious hoodlum in the employ of the Northside Boss, it's up to you to gain control of first your gang and ultimately the city.

King of Chicago is one of those interactive movie type games that follows a central plot and allows the player to make crucial decisions at various points during the adventure. Most earlier attempts at this type of game have proved to be very limited (Stoine, Accolade's Comics etc) but King of Chicago has been very well done. You can't bank on the character's reactions in any

KING OF CHICAGO

MIRRORSOFT make you an offer you can't refuse

given situation and it's doubtful whether any two games you play will ever be exactly the same. You always have to plan your strategies for the game you're actually playing and not in the hope that the game will follow the same course as an earlier attempt. Choosing your course of action involves selecting one of Pinky Callahan's (that's you, folks) thought bubbles. He then reacts accordingly. Entertaining stuff that does well to capture the flavour of the era as well as providing a fair challenge.

● Andy Smith

RELEASE BOX

AMIGA £29.99dk OUT NOW
MAC £49.95dk IMMINENT
ATARI ST £24.99dk SPRING
C64/128 £14.99dk SPRING

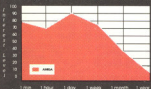
Amiga Version

As Microsoft point out on the cover of the packaging, the game's not recommended for the humble among us who only own a half Mb drive. You really do need either 2 drives or at least a 1 Mb drive to enjoy the game's graphics and music without annoying bouts of disk swapping – which can be tedious to the point of ruining the game.

GRAPHICS 8 IQ FACTOR 6
AUDIO 8 FUN FACTOR 7

ACE RATING 700

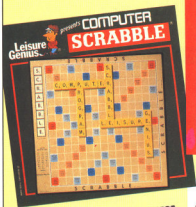
PREDICTED INTEREST CURVE



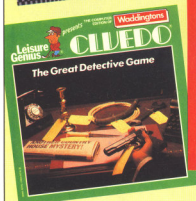
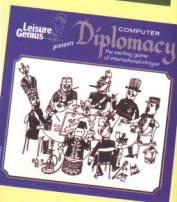
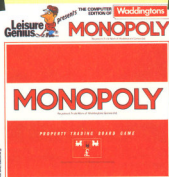
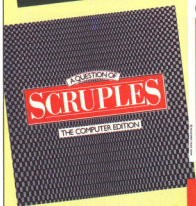
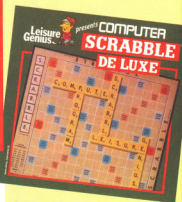
An entertaining game that you'll enjoy if you have at least a 1 Mb disk drive



The delectable Lola. Don't trust her though – games is renowned for runnin' out on ya, see.



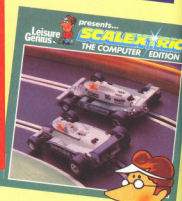
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Leisure Genius



24 VERNON YARD, PORTOBELLO ROAD, LONDON W11 2DX.

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SPECTRUM - In the jungle on level 1, and it's not just the situation that looks ugly.

PLATOON

OCEAN'S rumble in the jungle

VIETNAM'S vice-like grip on modern American cinema is hardly surprising, but UK software spin-offs are rather tougher to figure out. Ocean's earlier foray into South East Asian celluloid - the brainlessly violent Rambo - was no better than the original film deserved, but *Platoon* is a different kettle of fish. How can anyone cram a movie that centres round the struggle of good versus evil within the US Army into an arcade game?

RELEASE BOX

C64/128	£9.95cs, £14.95sk	OUT NOW
SPEC	£9.95cs, £14.95sk	OUT NOW
AMS	£9.95cs, £14.95sk	IMMINENT

As you might have guessed, Ocean haven't really tried to: what they've turned out instead is a multiloop jungles-and-tunnels slugfest not a million miles away from *Gryzor*, with the Viet Cong obligingly standing in for those nasty aliens. As you work your way through the differing perspectives and control methods of the game's six stages, you're faced with search and destroy tasks based on sections of the film plot.

In the jungle maze of the first stage you have to find a box of explosives and dynamite a bridge, while fending off VCs and dodging their booby-traps. By ducking, jumping and firing you can avoid enemy bullets while hitting home with your own - if you've got sharp reflexes and good timing, that is. Jumping can also get you over trip-mines and spider-hole snipers, but a hand



STATUS 002
MORALE SCORE HITS

C64 - Searching a hut in the level 2 village watch out for booby traps!

grenade will get the job done here if you can spare one.

Once you've found and used the explosives it's on to a very brief stage two where, still in that flattened perspective, you have to search a VC-sympathetic village for vital equipment, namely a map of the tunnel complex under the village and a torch to explore it by. VC attackers are interspersed with innocent villagers, the former thoughtfully wearing battledress so as to stand out nicely. Shooting villagers carries stiff penalties so there's something of a Hogan's Alley side to the action here, but mostly it's a matter of learning where the equipment is and getting to it. Once you've found the map, torch and the trap door into the tunnel system, stages three and four load in.

As you explore the flooded tunnels searching for VC weapons caches, attackers spring from the water wielding knives. Survival depends on reflexes alone: quick,

accurate shooting is essential if you want to come through alive. The soldiers-eye view here heightens the tension but, as in the bunker defence sequence of stage four, the action is little more than target shooting and careful use of ammo.

Stages five and six are the last to load, offering another jungle sequence followed by grenade throwing. The scenario here has you blasting your own (very nasty) sergeant out of a foxhole so you can shelter there, but as elsewhere in the game the moral problems this involves don't get any further than the instructions: it's all just action once you're playing.

Film tie-ins tend to be a pretty miserable breed, but despite some gameplay grumbles *Platoon* does hang together pretty well even if it misses the point somewhat. The lives structure is interesting - for much of the game you switch between five different men each with his own health level to maintain. This helps add depth to some hectic arcade-ish gameplay, while there is a real sense of the plot advancing. But the game does trivialise a serious subject, and you may find some aspects of it stick in the throat: the Viet Cong weren't Martians or robots to be shot out of hand, and it's disturbing that they should be treated as such. Who's next? The Contras? The French resistance?

Andy Wilson

Spectrum Version

Sluggish control responses and scrolling ruin the game's playability, while the garishly clunky display makes it unappealing stuff to look at. On 128K machines the game loads in one go, but multi-load was the least of the 48K game's troubles anyway.

GRAPHICS	4	IQ FACTOR	4
AUDIO	2	FUN FACTOR	3

ACE RATING 530

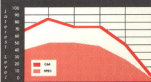
C64 Version

Though graphically impressive and very playable, this version's marred by a few nasty little bugs and some sloppy gameplay. Firing routine glitches mean your gun doesn't work when you're at the edge of a clearing, and changing personnel on stage two can accidentally kill villagers. Inevitable deaths add to the frustration too, so mind the blood pressure!

GRAPHICS	8	IQ FACTOR	4
AUDIO	7	FUN FACTOR	7

ACE RATING 801

PREDICTED INTEREST CURVE



Graphics make an initial difference, but it's playability that really separates the versions.

THE TRAIN: ESCAPE TO NORMANDY

ACCOLADE do the locomotion

VIVE La France! As French Resistance fighter Pierre Le Feu, your mission is to capture a train laden with priceless art treasures that Jerry intends to shunt to Berlin for the now inevitable surrender negotiations. You must then drive it to the town of Riviere to meet the Allies.

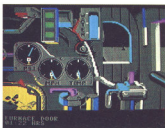
The game breaks down into three main sections - securing stations, securing bridges and driving the train.

furnace temperature and water levels, and during these sequences the player has a choice of four views: the engine cab, a map screen, and front and rear gunner views. The last two are for shooting down attacking enemy fighters. The map screen can be called up at the press of a key and allows the player to plan his route, taking note of which bridges and stations are controlled by which side, and where the sets of points are.

RELEASE BOX

C64/128	£9.95cs, £14.95dk	OUT NOW
No other versions planned		

Taking stations and bridges puts the player into an arcade sequence as he tries to shoot either guards that appear at windows, or boats that sail past the train, depending on where he happens to be. Driving the train involves regulating speed, steam pressure,



Keep your furnace topped-up to maintain speed.

C64 Version

Graphics are well-drawn and animated. Gameplay is easy to get used to and the only worry is watching steam pressure etc while studying one of the other views (or shooting down planes). Real-time elements add excitement and make the game great fun - a shame then that it's too easy (even with three difficulty levels) to provide a lasting challenge.

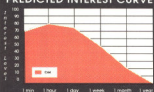
GRAPHICS	8	IQ FACTOR	5
AUDIO	8	FUN FACTOR	7

ACE RATING 641

You start the game at midnight and have to reach Riviere before dawn. The Train manages to combine a small amount of strategy and planning with a fair old slice of arcade action. It's fun while it lasts, but it won't take long to complete the mission - all that's left then is to try for a higher score.

● Andy Smith

PREDICTED INTEREST CURVE



It's an enthralling game to play, but without enough challenge to keep you playing for very long.

TOURNAMENT OF DEATH

INFOGRAMES go rifling through dungeons

LEE Enfield (a familiar name?) has got his back to the wall once again in this, the second of the Time Troubles series. After his debut in the Prohibition-type game Space Ace, Lee is up against the evil Yellow Shadow yet again, but this time in an arcade adventure set in the 13th Century.

That Yellow Peril has nabbed the Holy Shroud and is preparing to destroy it, so it's up to Lee to recover it. The forces of the Y.S. are guarding the Shroud in the castle of the Count of Savoy, and it's in this castle that the action takes place. To overcome the guards (which include bears) Lee has to resort to fistfights, and two vertical meters at the side

Lee's strength and overcome the foe - of course all fights are detrimental to Lee's health and once the health meter reaches zero it's game over. Helpful shields and suits of armour can be found in various chests and cupboards around the castle to help protect Lee during fights though, so it's worthwhile finding them.

Using just a small window to display the action is a little odd but works well, and the game can become quite addictive after a short while. On the whole it's an interesting arcade adventure that should keep you puzzling for some while.

● Andy Smith



Lee battles it out with a vicious-looking bear. Defeat the bear and you'll have the chance to search that chest.

RELEASE BOX

Atari ST	£19.95dk	OUT NOW
C64/128	£9.95cs, £14.95dk	IMMINENT
IBM PC	£19.95dk	IMMINENT
AMS	£9.95cs, £14.95dk	IMMINENT

of the window through which you view the action represent Lee's health and strength. During a fight with a foe, the player has to wobble the joystick rhythmically to raise

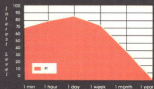
Atari ST Version

Though the window's small, the graphics in it are superb - well-drawn and very atmospheric. A tune that plays all the way through soon tends to annoy, though, while the absence of actual sound-effects does nothing to enhance the game. Gameplay takes a little getting used to, but poses no real problems. An unusual arcade adventure that's fun to play.

GRAPHICS	8	IQ FACTOR	5
AUDIO	5	FUN FACTOR	7

ACE RATING 776

PREDICTED INTEREST CURVE



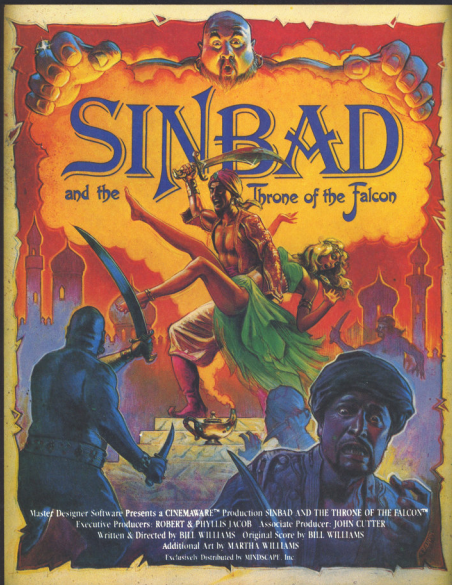
An unusual and enjoyable game, but you won't be playing it in a year's time.

AMIGA
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CINEMAWARE

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COMMODORE
64 DISK
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presents



MIRROR
Soft

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NEAR YOU

MIRROR
Soft

VAMPIRE'S EMPIRE



Atari ST

SPECTRUM £8.99 Tape

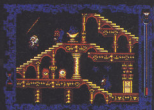
SPECTRUM +3 £12.99 Disk

CBM 64/128 £9.99 Tape £12.99 Disk

GREMLIN



MAGIC BYTES



Atari ST

AMIGA £19.99 Disk

ATARI ST £19.99 Disk

AMSTRAD £9.99 Tape £14.99 Disk

BALL RAIDER

ROBTEK go in to bat

BREAKOUT clones still surface now and again, and here's one of the Amiga variety. You've got 25 levels to complete, each with superb background graphics. There are some tricky screens to clear and your job's not made any easier by having to use a

joystick to control your bat. A good looker that unfortunately has no gameplay.

● Andy Smith

PREDICTED INTEREST CURVE



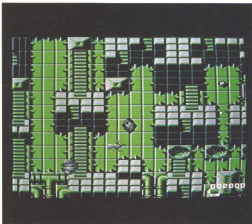
RELEASE BOX

AMIGA	£19.95k	OUT NOW
No other versions planned		



STRATON

CRL look into the future



EXPLORATION shoot-em-up as you guide your droid through several levels of this futuristic air terminal in an attempt to destroy the circuit breakers scattered throughout the levels. Great

graphics and music help make this an enjoyable game.

● Andy Smith

PREDICTED INTEREST CURVE



RELEASE BOX

CGA128	£9.95k	£14.95k	OUT NOW
No other versions planned			

XR35

ANCO's good-looking number

OVER-SENSITIVE controls spoil this fabulous-looking horizontally scrolling shoot-em-up. You're flying a space ship through a tunnel and under constant bombardment from various flying aliens. You've got to dodge their shots, and this is where the problems start. Crashing into any of the tunnel walls takes away one of your lives and the controls are

so sensitive you'll find yourself hitting the walls almost every time you move the joystick. This makes the game a lot less playable than it might have been.

● Andy Smith

RELEASE BOX

AMIGA	£9.95k	OUT NOW
No other versions planned		

PREDICTED INTEREST CURVE



GRID START

ANCO hit top gear

RACING games aren't exactly ten a penny these days - at just under a tanner this one is pretty cheap for the Amiga - but they're certainly thick on the ground. This one offers you eight of the world's great Grand Prix circuits to tear round, giving you a view from behind your car as you desperately struggle to stay on the track and dodge other drivers. It's competent stuff and quite pretty to look at, but the track really isn't wide enough for safe overtaking and that mars the gameplay. All part of the

fun, you might argue, but there's really too much chance involved in what should be a routine manoeuvre.

● Andy Wilson



PREDICTED INTEREST CURVE



RELEASE BOX

AMIGA	£9.95k	OUT NOW
No other versions planned		

New versions of old favourites? We've got 'em! ST Test Drive's out on the forecourt, Amstrad Flying Shark's ready for take-off and somehow we've crammed in three helpings of Tetris. Enjoy!

UPDATE SPECIAL

DARK CASTLE

Mirrorsoft \$24.99

Oh dear, oh dear. This one could have been a half-way decent game, or even better, if it weren't for the awful gameplay.

Dark Castle is very similar in some ways to Black Lamp on the ST (though not nearly so pretty). It's essentially a search and destroy game with a jumping, rock-throwing hero who makes his way through different scenes to confront the Black Knight at the end of the game.

Each screen is an unoriginal lay-out of platforms, ladders, stairways, ropes, and traps over which you climb, jump, and run. Nasties take the form of rats, bats, guards, and other familiar opponents, all of whom you despatch by throwing rocks at them. There are a few bonus weapons to collect, but their use is as limited as their numbers.

So far, so familiar. Unfortunately, the controls are terrible - you must send your figure upstairs, downstairs, and round the Black Knight's chamber by pressing awkward combinations of fire button and stick. The program will interpret these commands in different ways according to whether it thinks you're standing by a staircase or not. All too often, you'll leap to your death when instead you were planning to trip lightly down the stairs.

Once you've lost your lives, more often through lack of proper control than lack of skill, you have to wait over two minutes to get back into the game while the program loads from two disks. You might be able to develop enough skill in the very long term to alleviate some of the control problems, but disk drives never learn.

Even playing with the keyboard and mouse in combination (a much better bet) things are still awkward. You can forgive the old game concept, but most of the old games were a damn sight more playable than this one.

● Steve Cooke

Amiga Version

Graphics are passable but nothing to write home about. Some nice sound effects too, though they get a bit repetitive after a while. But in the final analysis what bombs this game is neither the unadventurous display, nor the old game ideas, but the painfully frustrating gameplay.

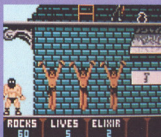
GRAPHICS 7 IQ FACTOR 2
AUDIO 6 FUN FACTOR 4

ACE RATING 693

PREDICTED INTEREST CURVE



Nice spot effects and reasonable graphics raise your hopes, but the appalling gameplay takes a lot of getting used to.



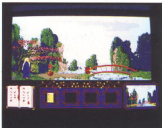
Dark Castle: No new game idea to gasp at, and the plot won't exactly take your breath away either.

AMIGA

GOLDEN PATH

Firebird Gold \$19.95cd

Fair too many Amiga games use pre-drawn screens loaded in from disk as a substitute for interesting gameplay, and here's a case in point. An arcade adventure centering around an oriental monk's mystic quest, the game mostly involves picking objects up, dropping them again and hitting people or animals. Not exactly inspiring stuff, especially when your movement's very restricted and your machine's capable of so much more.



● ACE RATING 511

SPECTRUM

TETRIS

Mirrorsoft \$7.99cs \$12.99cd

C64 version reviewed Issue 5 - ACE Rating 956

Comparisons are odious, but this version of the Russian abstract geometry classic does fall a little way short of its C64 cousin. You can get rid of the silly patterned backgrounds, switch on the 'next shape' view and put up with the rather less impressive music, but the lack of a pause menu reduces it from a great game to being merely a good one. When things start going wrong at high speed you really need to pause and assess the situation: without this, the game's lasting interest takes a bit of a beating.



● ACE RATING 874

PC & COMPATIBLES

TETRIS

Mirrorsoft \$19.99cd

If the Spectrum version wasn't all it might have been, this one's just about everything you could wish for. It's got the lot: a cyan-and-magenta CGA version, a full colour EGA version, a completely colourless Hercules version and a totally wonderful set of memory-resident versions. Call it up in the middle

of your dBase bashing and you'll waste the rest of the day cramming little coloured shapes into tight spaces. There's still no pause, alas, but the boss mode (a fake spreadsheet for those ticklish moments at work) will halt the game to give you a breather. Good stuff.

● ACE RATING 905

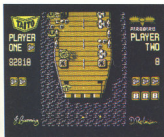
AMSTRAD

FLYING SHARK

Firebird \$8.95cs \$12.95dk

Spectrum version reviewed Issue 5 - ACE Rating 893
C64 version reviewed Issue 6 - ACE Rating 735

Rather slower than the Spectrum version and not a great deal more colourful, this one's still entertaining stuff as vertically scrolling shoot-em-ups go. The bullets could have been made a little easier to see, but you can't have everything.



● ACE RATING 784

TETRIS

Minorsoft \$8.95cs \$12.95dk

Far and away the weakest of this game's oh-so-many versions, the lack of a pause mode here is absolutely crucial. The game speeds up far too early and the controls are dreadfully unresponsive, so games tend to be short and exceedingly frustrating. A great concept badly mangled.

● ACE RATING 716

ATARI ST

TEST DRIVE

Electronic Arts \$24.95dk

Amiga version reviewed Issue 5 - ACE Rating 826

C64 version reviewed Issue 6 - ACE Rating 815

There isn't quite the same polish to the graphics on this driver's eye-view road racer that the Amiga version manages - the ST sound in particular falls a little short of the mark - but that's only to be expected. The thrill of wild acceleration and cornering is still there, the graphics move well and the



presentation impresses.

● ACE RATING 819

WARLOCK

The Edge \$14.95dk

Some very poor programming makes this isometric 3D arcade adventure a real disappointment. The graphics aren't too bad but animation is very poor. Room redrawing is pitifully slow and the lack of a joystick or mouse option - it's keyboard or nothing - cripples the gameplay. Even at the lower than average price, it would be very hard to recommend this one.

● ACE RATING 473

UPDATE SPECIAL

TIME BANDIT

Microdeal \$19.95

Take enough elements from enough good games, put them together in an intelligent way, and you might just come up with something that's playable in its own right - as Microdeal have with this entertaining high-speed blast 'n' search job.

The basic idea is to explore the different

classical ruin or a high-tech complex. There's even the Shadowland - a very nifty Pac-Man clone. Wherever you are the monsters you encounter are wittily created, and come at you fast and furious as you progress through a zone's levels.

● Pete Connor

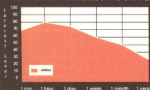
Amiga Version

The wee band teler you control is quite cute and moves pretty smoothly, but overall the graphics are not exactly astounding. However, the game is played for its action and addictiveness, so don't let that put you off.

GRAPHICS	6	IQ FACTOR	4
AUDIO	5	FUN FACTOR	8

ACE RATING 764

PREDICTED INTEREST CURVE



An excellent game to get into right away - and you'll probably come back for more.

time zones and, ultimately, solve the mystery that enshrouds the land. Each of the 16 zones has four levels of difficulty, and each of these four levels has four further levels. That makes a lot of screens - all of which you must complete to win the game.

In play, Time Bandit has similarities to both Robotron and Gauntlet. You control a wee fellow who rushes around blasting the monsters constantly being generated from the Portals. You search for a key - or keys - which will allow you to exit the level.

Each zone has a different theme: you might find yourself in a mediaeval castle, a



Your third time in Gridville (level 1C) and things are really heating up; that snake thing is chasing you all over the place. The smile on that tomato's face is going to be wiped off when you blast it. Note that your rating at the moment is 'Fearless', which means you get 40 points for any nasties killed; if your behaviour goes down to 'wimpy' you won't be getting any points at all.

WIZARD WARZ™

WIZARD WARZ is a combination of fast moving action, depth of game play and strategic challenge that takes fantasy role playing one step further and it's....

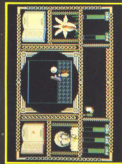
OUT NOW!!



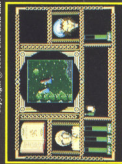
Screen shot from CBM version.



Screen shot from Spectrum version.



Screen shots from Atari ST version.



CBM 64/128 \$11.99 DISK \$9.99 TAPE

AMSTRAD \$14.99 DISK \$9.99 TAPE

SPECTRUM \$10.99 DISK \$9.99 TAPE

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There are times when you need a rest from all that puzzling and brainwork that a lot of games provide; when what you really want is a good strong dose of furious, frenetic, noisy, reaction-testing, nerve-racking ACTION. In short, what you need is a good shoot-em-up. In these pages you'll find listed the games we think are fit to be included in any self-respecting space pilot's collection.

SHOOT-EM-UPS

ACADEMY

	CRL	
Spectrum	£9.95cs	
C64/128	£9.95cs	£14.95dk
Amstrad	£9.95cs	£14.95dk
Atari ST		£19.95dk
Amiga		£19.95dk

As much a way of life as a game, Robot craft and installations have run riot on a series of planets, and it's your job as a trainee skimmer pilot to wipe them out. Graphics are basic but effective while sound effects are minimal, but this doesn't really detract from the game. Twenty missions are grouped into five sets of four, with each set being progressively more difficult, and only accessed by successfully completing the stage before. Not an easy game, but horribly addictive once you get into it. The action takes place over a 2D landscape which you can map if you want to. Success is more a

matter of puzzle-solving, patience and caution rather than lightning reflexes - bite off more than your craft can chew and you're done for, however good you are. A game you sit down to for an hour at a time, and one that'll keep you going for a long, long time.



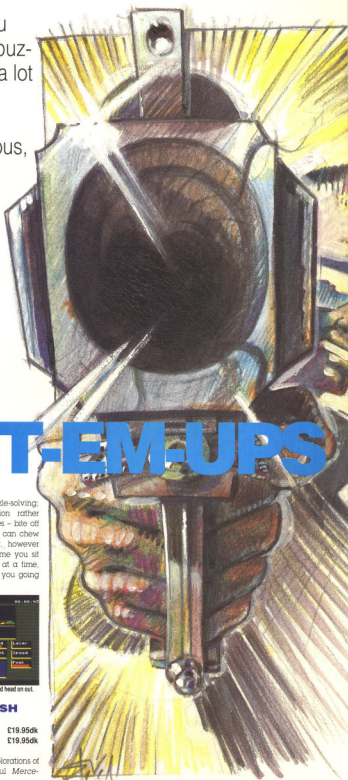
ACADEMY - Design your craft and head on out.

BACKLASH

Novagen

Atari ST	£19.95dk
Amiga	£19.95dk

After the strategic explorations of the hugely successful Merce-



nary, Novagen returned to the arena with Backlash – a pure-blooded melee of laser blasts, instant annihilation, and frantic movement. The scenario is strongly reminiscent of Encounter – bare alien landscape swarming with hostile aliens who hunt you down relentlessly, shooting monstrous fireballs at you as you dodge about the place trying to get

immensely enjoyable game that shouldn't be passed up (especially when you consider the price.)

DROPZONE

US Gold/Americana

C64/128 £2.99cs

Now a budget bargain, this Defender clone is still one of the

direction. There's no up, no down, and absolutely no quarter. Kill the enemy, run for home or die in the process. Tough, cynical stuff that'll have the palms of your hands in a sweat. Graphics have come on a bit since the slowish wise frames of the 8-bit versions – the PC Elite is in solid 3D – but for deep-space dog-fighting the game still gets top marks.

A fast vertical scroller this one. And on the Spectrum – miraculously – not a colour clash to be seen. Destroy the descending aliens and the various installations. The varied alien wave-forms make this a demanding game that can easily become a habit. Not to be missed if you're a Spectrum owner.

MAG MAX

Imagine

C64 £8.95 cs £12.95 dk
Spectrum £7.95 cs
Amstrad £8.95 cs £14.95 dk

Here's a horizontally scrolling shoot-em-up that has the player controlling a robot scouring the surface of a planet looking for parts of himself. This robot was designed to repel the hordes of invaders and every part of the robot that the player collects increases the his fire power. The end-of-level guardians and progressively harder stages make for one highly addictive and extremely playable game that will certainly test your reactions. The Spectrum version is, arguably, the best of the bunch.

ENCOUNTER

Novagen

C64/128 £9.95cs £12.95dk
Atari 8-bit £9.95cs £12.95dk

First of Novagen's games that launched them to instant fame. Stunning 3D graphics attracted interest, but what really hit the gamers was the pace of the action – fast, furious, and unrelenting. By today's standards the landscape is pretty bare, but what made this game (and still does) is the speed at which you play. Malevolent polygons hurtle across a green landscape letting fly at you – and they're very good shots. Use the pillars to avoid them, to hide behind, to spring ambushes, and stay alive as long as possible. Once you've wiped out a level you have to locate and pass through a gateway – then you find yourself back in the action on the next of eight levels. Night has fallen, and the aliens are meaner than ever...

MOONSTRIKE

Mirrosoft

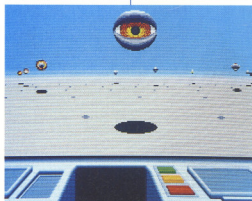
Spectrum £7.95cs

Humour's a tricky area for programmers, but New Zealand duo Binary Innovations were



MOONSTRIKE

spot on with the visual gags in this vertical scroller. As you blast and bomb your way through swarms of light bulbs, coins, pizzas and 6502 central processors you'll also be struck by the care and attention they've put into the gameplay. You'll need nerves of steel to pick your way through the hail of slow-moving enemy bullets, and split-second timing to destroy the volcanic end-of-level fortresses. Satisfyingly mindless destruction this is not; you'll need your brain in gear right from the word go. As for the distinctive black and white graphics, these might not appeal to Light Force fans but they're effective and witty.



Keep an eye out for BACKLASH

them in your sights. Very fast, spectacular explosions in shimmering, 3-dimensional glory, and very, very tough. Your mission is in the true shoot-em-up tradition – stay alive as long as possible and take as many of the blighters with you as you can. You'll run out of button-muscle long before you run out of interest.

DESTRUCTO

Buildog

Spectrum £1.99 cs
Amstrad £1.99 cs



DESTRUCTO – Cute graphics, wonderful game.

A super budget game for one or two players in which each player controls a plane and tries to shoot down all of Dr Destructo's over one of his ships, buildings or islands. Shoot down enough planes and the installation is destroyed and you can proceed to the next level. With 21 different levels and huge cutsey graphics, Destructo is an

best available. It not only looks good, but it also plays well and manages to keep the pace of the action right at the top of the league without sacrificing smoothness or playability. The mission is pretty well identical to the arcade original – collect the humanoids and deliver them safely to your Dropzone before they get turned into hideous mutants by the aliens. As for the aliens – well, you should know what to do with them by now. One of the best budget shoot-em-up bargains.

ELITE

Firebird

Spectrum £14.95cs
C64/128 £14.95cs £17.95dk
Amstrad £9.95cs £12.95dk
PC £24.95dk

If this 3D space epic is a shoot-em-up then, Michelangelo was an interior decorator, but for all that trading and mining you can do there's still a cracking blast in here. You can shuttle between safe systems carrying legal cargoes if you want, but the only way you'll get that coveted deadly or elite ranking is by going out there and wrecking other ships. This isn't easy: the combat is 3D tactically as well as graphically, so marauding pirates can attack from any

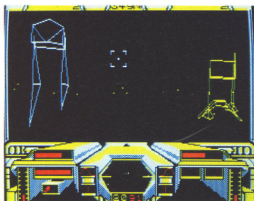
LIGHTFORCE

Gargoyle

Spectrum £7.95 cs
CBM £8.95cs £13.95dk
Amstrad £8.95 cs £13.95dk



LIGHTFORCE – habit-forming mayhem.



STARGLIDER - Novena, from inside your AGAV.

PARADROID

Hewson Consultants

C64/128 £7.95cs £12.95dk

'A very clever game', to quote ACE co-editor Pete Connor, but it also has the distinction of combining the excitement of wanton destruction with a good deal of strategic challenge. The interior of a space ship is the scene for a unique gameplay style in which you use your Influence Device to enter and control ANY of the droids on-board by first zapping them and then taking control of them. All of this is practically a game in itself. Consoles on different decks enable you to view maps and the Droid Data Library, all of which will help you to maximise your points by ramming, blasting, and controlling other droids as you attempt to clear the ship of its mutinous crew.

PLUTOS

Tynesoft

Atari ST £14.95dk
Amiga £14.95dk

There's no shortage of vertically scrolling games on the 16-bit machines, but if you get hold of *Plutos* you could well save yourself the trouble of buying more than one. Not that this is a game with anything original to offer - just manic action and blasting all the way up the pretty screen. A great bonus is the inclusion of a joint two-player option, which for some of us is the only way to make real progress (or score much points) in a pretty frenetic game. Naturally, *Plutos* isn't going to broaden your mind or make you a nicer and better person - but it will give you a

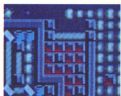
very satisfying zap whenever you feel in need of one.

SPORE

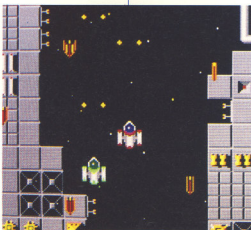
Buildog

C64 £1.99cs

A tremendous tactical slugfest, with a whopping 70 screens of genetically altered spores out to drain your ship's energy. Open up the screen sections one at a time, clear out the spores and generators within, and pick up the all-important barrels of pesticide. You'll spend half your time running away from the spores to



SPORE - pull out the pesticide.



PLUTOS - simultaneous two-player fun.

get them strung out in pursuit, and the other half blasting away at them before they can reach you. Frenzied stuff but by no means mindless. The game has 20 redefinable screens to edit once you've bought the built-in set. Terrific value!

STARGLIDER

Rainbird

Spectrum £14.95cs £19.95dk
C64 £14.95cs £17.95dk
Amstrad £14.95cs £19.95dk
Atari ST £24.95dk
Amiga £24.95dk
IBM PC £19.95dk

StarGLider is still one of the best examples of vector graphics, and one of the best shoot-em-ups you can buy. There's a fair old slice of strategic planning involved as you fly your AGAV around the barren wastes of Novenia in the attempt to

destroy the Egnon flagship (the *StarGLider*), as you have to keep your eye on your craft's energy levels etc. A wonderful viewed from the cockpit game that has as big a task as you could hope to find in a shoot-em-up.

3D STARSTRIKE

Firebird Silver

Spectrum £7.95cs
Amstrad £7.95cs £14.95dk

A shameless rip-off of the Atari coin-op *Solar Wars*, this three-year old wire-framer can still show the recent official (Domark) licence a clean pair of heels. Shoot the fighters in deep space, blast the towers on the battlestation's surface and dodge the flick in the trench as you head for that elusive exhaust duct. Terrific for its time, and great value nowadays if you can track it down.



MAGMAX - manic robotic blasting.

TANK BUSTERS

Design Design/Firebird Silver

CPC £1.99cs
Spectrum £1.99cs

This was one of a family of very successful games by Design Design, who were originally (in the good old, bad old days) called Crystal and produced some memorable Spectrum games, including the notorious *Halls of the Things*. *Tank Busters* appeared on their disk compilation along with the excellent *Dark Star* and others - it's now a budget release from Firebird. It remains one of the best implementations of the arcade game *Battlezone* on an 8-bit micro. Just in case you were born yesterday, that means you pilot a tank around a vector graphics

landscape, blasting other tanks and guided missiles. Use the abstract rocks and pyramids to hide behind and make sure you run like mad when one of the more intelligent metal monsters locks onto you – the highest scorer, however, is the man who knows when to turn and fire...

URIDIUM

Hewson

Spectrum £8.95cs
C64/128 £9.95cs £12.95dk

Andrew Braybrook's game took about five minutes to become a classic – punters were dazzled by the super-smooth scrolling and knocked out by the metallic and menacing graphics.

Basically, you have to fly around blasting the mighty Dreadnoughts – massive structures floating in space. Your ship has plenty of inertia, which some people find annoying in play. Or maybe they just find it too tricky...

XENON

Melbourne House

Atari ST £19.99 dk
Amiga £19.99 dk

Xenon made its first appear-

ance on Mastertronic Arcadia arcade label. The 16-bit versions of the game are almost direct translations from the coin-op, and are consequently very good looking.

There are lots of extra weapons to pick up, including multiples and invincibility pods that render you indestructible for a few seconds. There are only four stages to the game but each one is murderously difficult and it will take you a long time to master each level.

ZARCH

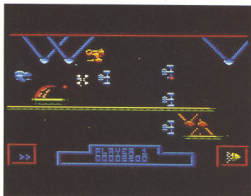
Superior

Archimedes £19.95dk
ST & Amiga versions under development

No issue of ACE is complete without a reference to this one, and quite right too: it's a little better. The feverishly addictive



ZARCH - ACE's highest-rated game to date.



Fantastic blasting in ZYNAPS.

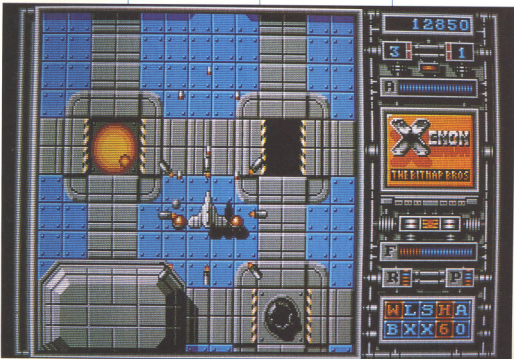
blasting of Defender meets the real physics control style of Asteroids or Thrust, all in glowing solid 3D that goes well beyond the state of the art. Your mission is to wipe out a whole fleet of alien nasties before they pollute your planet, with a whole series of tougher fleets to face once you've mastered the first lot. You'll have mutants to dogfight with, bombers to hunt down, scanners to protect, mutated trees to destroy – this game's got everything. It's pure 32-bit poetry, with 16-bit versions in the pipeline.

ZYNAPS

Hewson

Spectrum £7.95cs
Amstrad £8.95cs £14.95dk
C64/128 £8.95cs £12.95dk

Sideways-scrolling blaster, where objects collected give you extra weapons. Capsules discarded by the smitten aliens give you either extra points or the additional weapons you'll need to make progress – because Zynaps is pretty tough going. It's one of those games where it certainly does pay to learn your wave structures. ●



XENON – plane or buggy, the choice is yours.

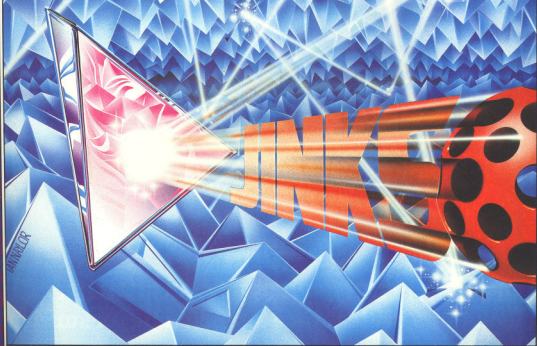


Screen shots from CBM version.



"The graphics are well designed and the scrolling is faultless."

HAPPY
COMPUTER
Germany



PREPARE FOR A TOTALLY NEW PINBALL STYLE GAME,
PREPARE TO BE INSTANTLY HOOKED, PREPARE FOR FRANTIC GAMEPLAY

PREPARE FOR JINKS!



TOMORROW'S SOFTWARE TODAY

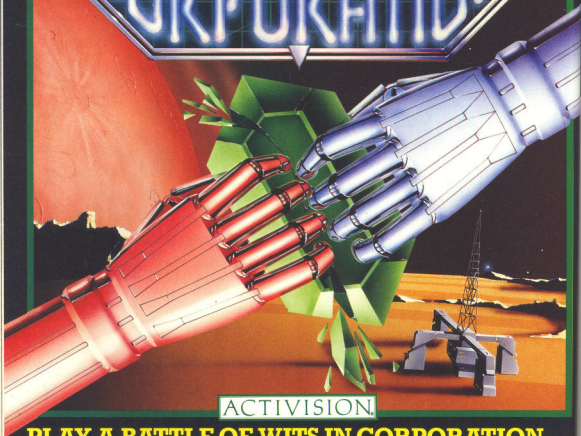
Right from the word GO!, Jinks will test your reflexes, judgement and skill to the absolute limit. By controlling a unique triangular space glider over extraordinary landscapes you must attempt to guide a wild bouncing alien probe through countless hazards. Avoid the magnetic fields, dodge the air-vacuum shafts, bounce over the bouncing marshes, steer clear of the rotating disks that cut into your space glider and - Phew! - you're ready for the next level! Look out for Jinks - a completely new angle in computer fun.



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Commodore programming by Daryl Bowers. Spectrum and Amstrad programming by Simon Freeman. Graphics by Focus.



WIN! 3 Z88
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EPYX ECSTASY!

The Z88

In case you didn't already know, the Z88 is the latest brainchild of Sir Clive Sinclair. This may explain the rubber keyboard – but don't be too concerned by that; you get used to it very quickly, and it's a real boon if you want to type somewhere that demands quiet, such as a library.

The Z88 is not just an electronic notebook, but a full-featured and totally portable computer. It comes with a built-in spreadsheet, BASIC, clock and a calendar which will give you dates and days as far back as 1753 (useful, eh?) In short, it's the perfect Yuppie computer, the essential accessory for 1988, what everyone's wearing in the trendiest discos...Get competing for one now!

HOW TO WIN

In *Impossible Mission* you play the role of the secret agent who must stop the nefarious Mindbender's megalomaniacal plans. So we're going to see if you've done your homework on secret agenting. Below are 6 questions about fictional spies from film and TV. All you have to do is select the right answers from the alternatives, write them on the coupon provided and then send it to Impossible Mission 2 Comp, ACE, 4 Queen Street, Bath B1 1EJ – by the 15th April.

1. Who played agent **Napoleon Solo** in the TV series *The Man From U.N.C.L.E.*?

- (a) David McCallum
- (b) Robert Vaughan
- (c) Frankie Vaughan

2. Who played **James Bond** in the film *On Her Majesty's Secret Service*?

- (a) Sean Connery
- (b) George Lazenby
- (c) Roger Moore

3. Who was the secret agent **Harry Palmer** in the films *The Ipcress File* and *Funeral in Berlin*?

- (a) Trevor Howard
- (b) Oliver Tobias
- (c) Michael Caine

4. Who played **Steed** in *The Avengers*?

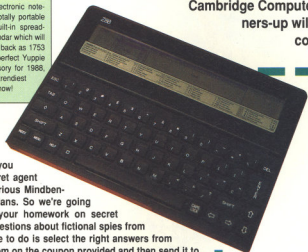
- (a) David McNea
- (b) Max McNea
- (c) Patrick McNea

5. Who was **Smiley** in the TV series *Tinker, Tailor, Soldier, Spy*?

- (a) Frank Stout
- (b) Alec Guinness
- (c) Joe Mackeson

6. Who was **The Saint** in the original TV series?

- (a) Ian Ogilvy
- (b) Roger Moore
- (c) Edward Galtan



The six correct answers are (write letter in box):

- | | |
|---|--------------------------|
| 1 | ☐ |
| 2 | ☐ |
| 3 | ☐ |
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A bumper bagful of tips and pokes this month, including pokes for *Quedex*, *Jack The Nipper II* and *Flying Shark*. We also bring you the solution to the last two towers in *Nebulus* and a magnificent players' guide to that Superior mind-bender *Bonecruncher*.

TRICKS 'N' TACTICS

BUBBLE BOBBLE

A handy little tip for ST owners.

Press F1 to advance one screen.

Press F2 to advance six screens.

Press F3 to advance eleven screens.

CRAIG DICKSON, Nottingham.



NEBULUS

Following Bob Wade's wonderful tips up to level six in Issue 5, we can now bring you the solutions to the other levels.

● **Tower 7** Go right, onto the lift, go up, go right, fall, jump right, then left (look out for the spinner), go up, shoot glowing block, go left, onto lift then push up. When you stop push up again. Go right and you will fall onto first lift. Push up, shoot one glowing block on your left, then go right staying just behind the spinner and shoot the glowing block. Go up, quickly getting on each lift as soon as you get to them. When you reach the top lift go underneath the spinner that's going up and down and wait on the block to the right of it. Another spinner will be going round (as before) and you must be behind it as you go around. Avoid the low blocks as they all disappear. Go up the lift, do the same as before but this time use the lower blocks

to wait on, as the spinner goes twice as fast as you. Go up the lift, under the spinners, take lift No4, go up, shoot balls, go right, drop, go left, drop, take lift No3, go left, fall, take lift, go up and through the door.

● **Tower 8** Go right, go up, shoot balls, go left, shoot glowing block, go right, through door, go left. When you reach the third block jump, you will fall onto a lift. Go up, through door, go right, jump under spinners that are going up and down. Take the lift up, go left, jump over all the spinners, shoot glowing block, go up the first lift, through the door, jump left, through the door, shoot right glowing block, go through the door, jump right, go through door, jump left, go up, go left, go up once, go up again, go left, shoot block, go right, fall, take lift, go up, go right, fall again, shoot block, go up, go left, go through door, shoot right, go left, jump left - block disappears. Repeat process (to get back to this point jump onto lower block), jump left, shoot block, go up and take door number 3, and Bingo! give yourself a pat on the back.

JOHN MACK, Westbury, Wilts.

GRYZOR

A neat cheat for Spectrum owners.

Load in the 48k side of the tape. Choose your method of control. Then load Level One and complete it (shouldn't be too hard). Load in Level Two and lose all your lives. Now you will get the chance to Continue or Restart. Select the Restart option and you'll be asked to reload Level One. Rewind to the beginning of Level One, and when this level has loaded you will have a whole heap of lives which should enable you to complete the game in one go.

LEROY BAGWELL, Newton Pophelford.



BONECRUNCHER PLAYERS GUIDE

This challenging puzzle game grabbed a massive 943 ACE rating in our March issue. Check out our timely tips, passwords, and tactical hints...



Bonecruncher has 22 levels, completing each of which will give you a password that enables you to access the next level from the main menu. You can check out a list of passwords to the first six levels elsewhere on this page.

The diagrams on these pages go together to provide a complete map of level 4 (Password: Golemkiller) and the accompanying tips provide a good introduction to basic Bonecruncher tactics. Success in the game depends on tackling the different obstacles in the right order – and that usually means knowing which route to follow when, and when to change the aroma direction.

In addition there are a number of basic skills, some of which are similar to Boulderdash. You can see these listed in the Skills Box. Good luck, and may the soap be with you...

PHASE 1

1 - Collect the key, open the gate, and steal the square to the right: the glock will fall and block the monster. Then follow the route to Point B. Do this without disturbing Point A. En route you will collect two skeletons, since the monster at C will be tripped by the falling glock.

This monster is a red herring – providing you don't release it, it will simply fall down the trapdoor when you pass beneath and to the right of it on your way to the cauldron.

2 - Steal the square to the left and the glock will fall and hold the monster. Follow the route to D. The monster will have moved to the left as you reach the square, allowing the glock to fall to the bottom of the screen, though you won't be able to see this. Move right one square and the monster will rise up after you. Lure it along the route shown – when you pass under the glock to point E, the glock will fall, holding the monster. Now go up to the beginning and nudge Fozzy down the left hand edge of the screen. Wait for him at point F – he will go down out of sight, and will soon come up the passage to point G, tripping the monster and turning it to a skeleton.

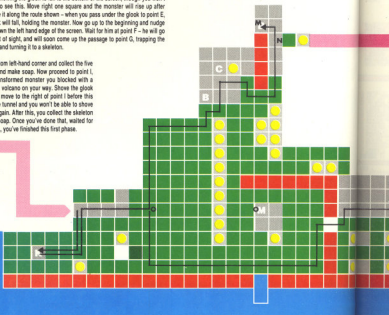
3 - Pick up the new skeleton, then go down to the bottom left-hand corner and collect the five skeletons there. Proceed to the cauldron at point H and make soap. Now proceed to point I, collecting the two skeletons (one of which is the transformed monster you blocked with a glock at the beginning of the game). Don't disturb the volcano on your way. Show the glock to the right and it will fall down. Make sure you don't move to the right of point I before this manoeuvre, otherwise the monster at J will rise up the tunnel and you won't be able to shove the glock without backtracking to lure it downwards again. After this, you collect the skeleton at K, then pop back to the stairway and deliver your soap. Once you've done that, waited for the glocks to shift to the left, and collected the key at L, you've finished this first phase.

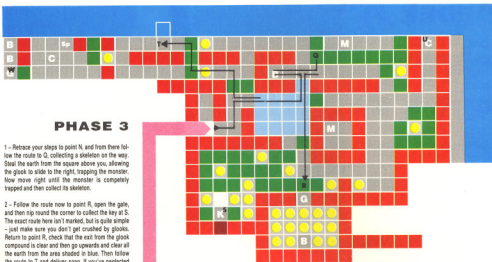
PHASE 2

1 - Open the gate, and follow the route to point M, collecting the key, the two skeletons, and making more soap in the progress.

2 - Go to point N, steal the earth to the right, then quickly descend one square, allowing the glock to come to rest one square above you. Now shove it up one square, allowing it to slide into the square at point M. Then retrace your steps to point O, and then from there follow the route through the gate to point P, collecting another skeleton and a key en route. Then deliver soap for the second time, pointing the aroma direction to the right.

3 - Wait by the stairway until the aroma direction changes, then nip down and collect four skeletons from the monster pens at the bottom right of the map.





PHASE 3

1 - Retrace your steps to point N, and from there follow the route to Q, collecting a skeleton on the way. Steal the earth from the square above you, allowing the glock to slide to the right, trapping the monster. Now move right until the monster is completely trapped and then collect its skeleton.

2 - Follow the route now to point R, open the gate, and then nip round the corner to collect the key at S. The exact route here isn't marked, but is quite simple - just make sure you don't get crushed by glocks. Return to point R, check that the exit from the glock compound is clear and then go upwards and clear all the earth from the area shaded in blue. Then follow the route to T and deliver soap. If you've neglected to make soap, do so at point U.

3 - The glocks will now rise out of the compound, allowing you to retrieve the skeleton at the bottom.

FINISHING OFF

1 - You now need only three skeletons to complete the game. Proceed to point W, avoiding the spider. Spiders always move to the LEFT remember. Open the gate and collect the two skeletons. You can escape to the left by pushing the glock.

2 - Your last skeleton - and two ways to get it. Either you can be sadistic and trap Fozzie somewhere - he turns into a skeleton and makes just as good soap as the monsters - or you can proceed to point X, trapping the monster at Y, and then deliver soap (providing you've remembered to make it on the way), changing the aroma direction downwards. Wait for the glock to fall and trap the monster, collect it, make soap again, and Bono's your uncle!

M	MONSTER	WALL	G	GATE
STAIRWAY	EARTH	B	SKELETONS	
K	KEY	GLOCKS	C	CAULDRON

BONECRUNCHER SKILLS

1. The Steal

This allows Bono to 'steal' a square of earth on one side without actually moving into a square - you do this by holding down the fire button and pushing the joystick in the required direction. Its most frequent uses are to release monsters from their pens without being killed and to free glocks without being crushed. It's important to realise that you cannot steal skeletons or keys - pressing the fire button and moving the joystick towards these items will simply move you onto the relevant square, so don't try it if the square is under threat from a monster.

2. Push, Shove and Hold

Shove is similar to steal - provided a glock is unobstructed on the other side, you can stand on one side of it and shove it over by one square without moving yourself, again by holding down the fire button and pushing the joystick. Note that you can also shove moving glocks - an essential tactic on some screens. If the aroma direction has just changed and a procession of glocks is, for example, rising up into a narrow alley, you can stand Bono by the side of the alley and push them over as they rise up. This is sometimes necessary if a large number of moving glocks are threatening to close off a route.

Bono can also push glocks about, provided their path is unobstructed by other obstacles (including other glocks). He can also hold glocks, by standing underneath them. For example, if the aroma direction is downwards and a pile of glocks is supported by an earth square, Bono can move onto that earth square and support the glocks himself. The best example of Push and Hold occurs on the Scarab screen. See the illustration for details.

One word of warning - you cannot escape from a moving glock by running in the same direction. For example, if the aroma direction is downwards and you steal a square of earth above, releasing a glock, you cannot escape downwards but must move from side to side. Monsters, on the other hand, cannot catch you up in a straight-line race.

3. Trap, Lure, and Drop

Trapping a monster on a single square results in a new skeleton. The most common method of doing this involves manoeuvring a glock (if there isn't one there already) into a monster's den, luring the monster to one end of the enclosure, and then changing the aroma direction, whereupon the glock moves along the enclosure and traps the monster, changing it to a skeleton.

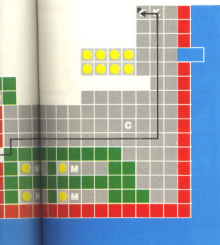
Alternatively, you can release a monster, which will follow you, and then pass to one side of a glock. Providing the aroma direction is right, the glock will then fall (or rise, or slide), blocking the monster's path and allowing you to escape. There is usually no point in this tactic unless the glock holds the monster in a dead-end and you can get Fozzie to trap the monster and turn it into a skeleton. There's a good example of this in Golemkiller - see the map and note 2 of Phase 1.

Alternatively, you can release a monster and lure it up to a trap door, whereupon it will fall into and disappear. This is a simple but effective tactic, the best example of which is on the Scarab screen where you can dispose of literally dozens of monsters all in one go by getting them to run in single file straight into a trap door.

Get Going!

Here are some passwords to get you going through the first six screens. Don't worry - there are only 16 to go after that!

- Screen 2: Golemstentch
- Screen 3: Morphicle
- Screen 4: Golemkiller
- Screen 5: Scarab
- Screen 6: Web of Death

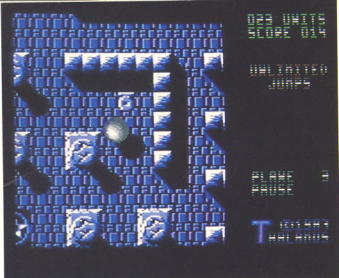


QUEDEX

If this quest for ultimate dexterity is proving a little tough for you on the C64, this infinite lives poke should come in handy. Type in the listing, run and load the game from the start.

10 FOR X=528 TO 557
20 READ Y:POKE X,Y:C=C+Y:NEXT
30 IF C=2895 THEN POKE 157,128:SYS 528
40 PRINT "DATA ERROR!"
50 DATA 169,29,141,40,3,169,2,141,41,3
60 DATA 32,86,245,169,6,141,206,1,96,72
70 DATA 77,80,169,181,141,96,46,76,235,2

DIGGER, Washington Tyne and Wear.



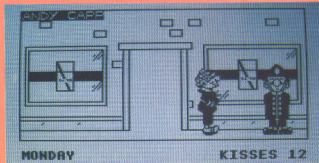
ANDY CAPP

Here's the solution and some general tips for Mirrorsoft's cartoon skiver.

- 1 Go to the shop and buy the Daily Mirror and the Racing News.
- 2 Go to the Jobcentre – ask for a job and your Giro.
- 3 Go to Fred's Wing Nuts – say "I've come for the job."
say "I can operate a computer."
say "IBM"
say "No, I haven't."
use the Transaction command and he'll give you a £40 sub.
- 4 Go to the Betting Shop – examine the Racing News – use the Transaction command and bet on Track One (20p). He'll then give you your rent book.
- 5 Go to the Town Hall and pay the £20 rent.
- 6 Go to the Police Station. The Desk Sergeant will

- give you Chalkie's keys. With these keys go into Chalkie's back garden. Walk into the middle of the garden and you will automatically pick up a rose.
- 7 Find Flo. Blow her a kiss. Stand next to her. Use the mirror. She'll give you your benefit card.
 - 8 On Wednesday go to the Jobcentre. Use the Transaction command and sign on the dole.
 - 9 On Thursday find your girlfriend. Ask where the Giro is. She'll say she gave it to Jack the Barman. Go to the local pub and ask Jack where the Giro is. He'll then give you the Giro.
 - 10 Find Flo and give her the Giro. That's it!

WESLEY SMITH, Tunbridge Wells.



General Tips

- 1 When you see a Policeman walking towards you, blow him a kiss.
- 2 Always top-up with beer.
- 3 After entering a building with closing hours, you will not be thrown out at closing time. But if you leave after closing time you will not be able to enter again until the next day.
- 4 The ale's cheaper in your local. Opening hours = 11am – 3pm.
- 5 Stay in your local pub at night if possible – failing that, in your house.
- 6 Avoid fights.
- 7 Skip time at night.

DEFLEKTOR

If last month's players' guide didn't help you conquer this game then hopefully this poke will.

It's for the C64 and you should type in the listing and run it before loading the game. You will now be graced with infinite energy and immunity to overloading.

100 DATA 32,86,245,169,78,141,204,2
110 DATA 169,1,141,205,2,96,169,165
120 DATA 141,143,54,141,249,54,76,5
130 DATA 8,169,173,238,32,208,206
140 DATA 33,208,76,226,252,1,3,5,32
150 DATA 9,19,32,3,18,1,16
160 FOR L=320 TO 344:READ A
170 POKE L,A:NEXT:SYS 320

THE HACKER, London



Flying shark

FLYING SHARK

For those C64'ers with a reset facility, this poke will give you infinite lives. Load the game, reset the computer and enter:

POKE 7929,173:SYS 2061

THE HACKER, London.

★ THE HUNT FOR RED OCTOBER

The lives of ST users have been made a whole lot easier thanks to this little tip.

Once you have been killed, you will receive information on how you died. When this is displayed, go up and save the game (use the *Red October* disk) then load the saved game and go to 'continue game' and press fire. This can be used every time you die and should help you complete the game.

NOTE Saving the game on the original disk will NOT copy over *The Hunt for Red October*.

DARREN PARDOE, Basingstoke.

JACK THE NIPPER II

C64 poke for infinite Jacks. Simply type in the listing, RUN it and load the game from the start.

```
10 FOR I= 256 TO 296 :READ A: POKE
I,A:NEXT
20 SYS 256
30 DATA
32,44,247,32,108,245,169,19,141,134,9
40 DATA
169,1,141,135,9,76,16,8,169,32,141,114
50 DATA
6,169,1,141,115,6,76,0,6,169,238,141,170,199
60 DATA 76,16,128,0,0
```

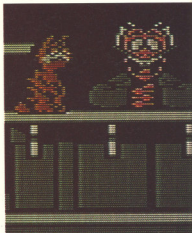
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GARFIELD

This C64 cheat should grace your feline chum with infinite food and he'll lose his need to take naps. Simply type in this listing, run it and load the game from the start.

```
0 REM GARFIELD CHEAT
1 FOR X=529 TO 562:READY:C=C+Y:POKE
X,Y:NEXT
2 IF C=3256 THEN POKE 157,128:SYS 529
3 PRINT "DATA ERROR"
4 DATA
32,86,245,169,34,141,220,2,169,2,141,221,2,96,
72,77,80
5 DATA
169,2,141,31,9,96,169,173,141,49,77,141,68,77,
76,40,8
```

THE MASTERHACKER
Pen-y-Mais, Clwyd

720°

Weather too bad to skate and practise your Boneless to Deaths?

Perhaps you'll give 720 a shot. If you'd like unlimited time and tickets on the C64, then type and run this listing before loading the game.

```
100 DATA 32,104,225,169,16,141,56,8,169,6
110 DATA 141,57,8,76,16,8,169,29,141,42,1
120 DATA 169,6,141,43,1,76,0,1,169,42,141
130 DATA 224,4,169,6,141,225,4,76,0,4,169
140 DATA 173,141,28,29,141,89,31,141,243
150 DATA 32,141,19,34,141,216,21,141,113
160 DATA 32,76,80,8
170 FOR L= 1536 TO 1600:READ A
180 POKE L,A:NEXT:POKE 157,128
190 SYS 1536
```

THE HACKER, London



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fantastic issue, but whaddya know, there's no space left to tell you about it.

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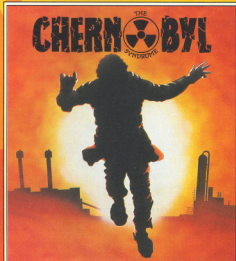


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EXPLOSIVE ACTION

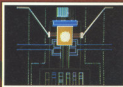
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THE SOUND OF MUSIC

A photo-romance by CHRIS JENKINS.

Could his love for his micro survive his passion for music? Read on!

Larry Least had always loved his computer, but another desire now filled his little heart...



Yessir, if you already have a micro computer, you have the basis of a music system which will allow you to produce professional-sounding results at home. Using the computer as a MIDI controller, you can create music with inexpensive, powerful MIDI synthesisers – allowing you to: play more than one instrument simultaneously; make digital recordings of your playing in real-time; edit your tunes; sound like Howard Jones; destroy your relationship with your neighbours; play a keyboard when you thought you could only play a guitar; plus a host of other tricks that make most computer pastimes seem even less inspiring than old hats.

Larry went to his local music shop. His heart pounded with excitement as he tip-toed inside...



Sales don't necessarily mean bargains, but if you want to find out more about computer music systems, your local music store should be your first stop. They'll be able to show you a range of instruments starting from around £100, and can advise you on MIDI software and interfaces. Getting into MIDI is a bit like getting into computing for the first time – you do need to dig around, but the results really justify the effort. Nowadays, even some arcade games have a MIDI output to generate a really stunning sound accompaniment while you blast away.

But in a shop, things were just a little confusing...



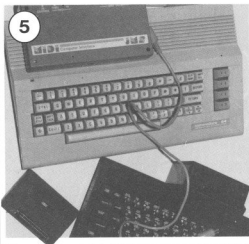
MIDI equipment comes in all shapes and sizes, from £99 keyboardless modules to £1500 synthesisers. Some of these can make very rude noises indeed. As with most love affairs, however, sweet music is simply a matter of knowing which buttons to press. First, however, you have to decide what you can afford – get some advice from a range of shops, and choose the equipment which offers the best sounds and facilities. It's worth trying specialist shops as well – a good one is Syndromic Music (Tel: 01 444 9126) who will give you some serious advice, if you're serious about asking it.

When Larry saw the Yamaha DX100, it was love at first sight!



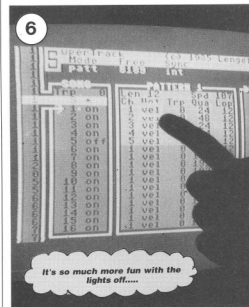
Larry's a one-machine man, it seems, but if you don't agree with his choice, you could try one of several small, portable, powerful-sounding MIDI synths starting at around £149; the Yamaha SHS-10, Casio CZ-101, Casio CZ-230S, Yamaha DX100, or Casio HT-700 are all worthy contenders.

But wait! Something was keeping Larry and his love apart!



He's run out of cocoa, to start with. He's also realised that unless you have an Atari ST, which has built-in MIDI ports, you'll need a MIDI interface to connect your synth to your micro. SEIL, Jellinghaus, Rosetti, Passport XRI, Cheetah, DHCP are EMR all manufacturers interfaces, for a range of micros including the Spectrum, BBC, Commodore 64, Amstrad CPC/PCW/PC and MSX. You'll also need several MIDI leads which your music shop can supply. Further details on MIDI and MIDI interfaces can be found in issues 1 and 2 of ACE, or see the MIDI Info Box on the last page of this section.

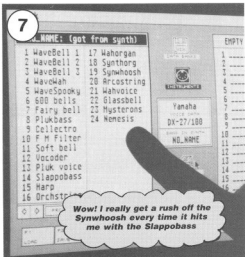
The kind assistant had also sold Larry a software package.



It's so much more fun with the lights off....

The first package you'll want is a MIDI sequencer. This will 'record' notes played on the synth keyboard, and allow you to correct, edit, loop, chain, and arrange them into songs. Some MIDI interfaces come with appropriate sequencer software free; other packages, like C-Lab Creator or Steinberg Pro-24 on the Atari ST, can cost around £250! No need for panic, however, since there are packages to suit all budgets.

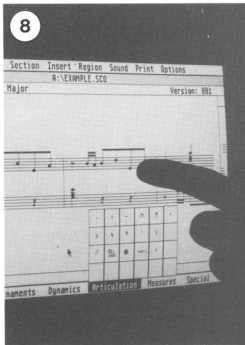
... and another software package...



Wow! I really get a rush off the Synwhooosh every time it hits me with the Slappobass

No kidding - some of the sounds you can set off are **really** bad. Sound editor/librarian packages allow you to transfer sound data from the synth to the computer, edit and rearrange it, then store it for future use. In this way you can create and save your own synth sounds, more easily than you can with the cut-down panel controls of most modern inexpensive synths.

... and another software package...



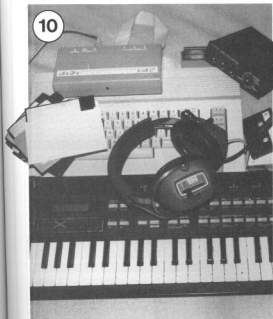
Scorewriter packages allow you to translate music from MIDI data into conventional manuscript form. They're invaluable for serious music students, but aren't your top priority if you can't read or write music!

The kind assistant had also sold Larry lots of other little boxes...



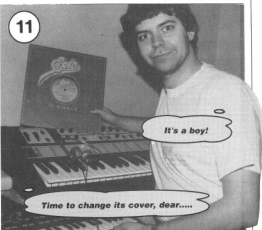
There are lots of different products which can be controlled by your micro via MIDI. MIDI drum machines will play in time with a sequencer; MIDI effects units will change function in response to signals from your micro, and MIDI sync boxes allow you to synchronise your sequences to tape for multi-track work. Even MIDI guitars, pianos, wind instruments, and mallet instruments are available – and getting cheaper all the time.

Larry loved his system dearly...



With a simple hi-fi tape recorder, or a 4-track Portastudio cassette recorder/mixer, you can create impressive music at home without the need to spend a fortune on equipment or studiohire. As you become more familiar with the equipment, you'll be able to add to the system to produce better and better results. It needn't be an expensive business, but watch out for the temptation to buy just one more little effects unit, or another second-hand keyboard, or an eight-track tape recorder, or a £40,000 Farlight Series III computer musical instrument, or Abbey Road studios.

...And nine months later, look what happened!



Larry Least became a pop mega-star, and now lives in two penthouses in Los Angeles with his llama, his camel, and chimpanzee Kenneth. Despite his passionate affair with his synthesisers, he still loves his computer, and has bought it a mansion in Rio de Janeiro, a yacht, and a Mercedes.

MIDI – the facts.

Future issues of ACE will be covering a host of MIDI topics, and will also be looking at computers and music in general for the benefit of those who are not involved with the MIDI revolution. We can't stress too much, however, how many benefits there are to be gained from MIDI. Like Comms, it's one of those areas of computing which still appeals to a minority only, but which offers tremendous rewards to anyone willing to investigate a little further.

Current MIDI applications include using the interface as a high-speed data transfer device, as in the multi-player game MIDI Maze, in which 16 players can play simultaneously, shooting each other with gay abandon. There are also pitch-to-MIDI converters, which enable you to convert musical pitch (your voice, your mother's voice, your canary's voice) into MIDI data, enabling you to control a whole musical accompaniment without actually playing a single note.

Here's where to find the information you need about MIDI in ACE:

- Issue 1:** MIDI Made Simple Part 1 + review of Casio's MIDI guitars.
- Issue 2:** MIDI Made Simple Part 2 + a look at MIDI interfaces for different machines.
- Issue 3:** A look at samplers + review of Roland's stunning MT32
- Issue 4:** Twenty keyboards reviewed + MIDI Made Simple final part.
- Issue 5:** Drum machines.
- Issue 6:** Music WITHOUT MIDI – seven packages reviewed for different micros.

Next month:

Look, we're not kidding. EVERYONE can use MIDI and with very little skill (and no musical ability whatsoever) can produce some stunning sound. In the next issue of ACE we go one further and spell out exactly how you can use MIDI to radically upgrade local noise ratings. And for those of you with (and without) the know-how, the MIDI Panel of Experts answers a whole string of queries from would-be MIDImen.



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POINTS OR PROGRESS?

Way back in the distant video game past the question was with us, and it divided games players even then. In those days it took the form 'Do you shoot saucers?', but deep down it was all about whether to go for points or progress.

The game was Space Invaders, and the saucers in question were little cigar-shaped blobs of light that periodically whizzed across the top of the screen. Shooting saucers could earn you big points if you knew what you were doing, but didn't get you any nearer to clearing the screen. Indeed, it usually involved exposing yourself to considerable danger from the marauding alien pack. Was it worth it? Were you better off concentrating on the pack and getting further into the game?

The dilemma cropped up again and again in the great rush of coin-ops that followed. Were the power pills in PacMan variants there to help you earn big bonuses munching ghosts, or was it better to use them for protection while carrying on the important task of clearing the screen? Was it worth using slow down in Qix and vastly increasing your scoring rate, or did sensible play mean dashing across the screen at full speed so that you survived longer?

Opposing camps took things to bizarre lengths in the quest to further their respective goals. Points players would find safe spots on Asteroid screens and hang there blasting incoming craft, deliberately leaving the last fragment of debris intact so that they didn't move on to a fresh set of boulders. Progress players meanwhile would sacrifice half the cities in Missile Command without a quodm, the better to defend the other half, even though this drastically reduced the end-of-level bonuses they got.

It isn't just classic arcade oldies that divide the opposing lobbies. How about the smart bombs in Flying Shark? If you use them you'll undoubtedly get further, but saving them up boosts your bonuses impressively. Or then there's Super Sprint: do you use the spanners to tune your car up and be sure of winning the next race, or do you take the risk of leaving it as it is and go for extra points instead?

On many games, dilemmas of points versus progress are just a phase the player

goes through. At first you'll always want to play for progress so that you can satisfy your curiosity about the game, e.g. what happens on level two? Equally, you'll eventually get as far as you're going to and end up just playing for points: you will finish the race, but how much extra time will you have left over? Games that award extra lives every 10,000 points or so can blur the boundaries further, nudging fervent progress players into collecting those bonus points after all.

At heart the games that really bring out the progress or points player in all of us are flexible games: PacMan, Arkanoid and Qix are pretty much what you make them. They achieve instant playability without stifling individual style. Making decisions and developing tactics are vital ingredients of gameplay, but so many titles these days offer you one - and only one - way to play: tackle the problem like this, they say, or you won't get anywhere. That's dull, and damages the long-term interest a game can offer. Let's hope things swing back the other way.

BAT AND BALL STYLE

For some reason modern Breakout derivatives really do bring out the divisions in games players. It's the tokens that do it of course: the tempting capsules in Arkanoid, the glowing horseshoes in Impact that give your bat extra powers, divide the ball into three or whatever. Even more so than mice, they're the key to the sudden boom in bat-and-ball games that otherwise throw away the enormous progress made by Impossi-ball or Revolution.

The tension's the thing - that dreadful dilemma of playing the ball or grabbing the capsule first. Can you get the bat back in time to keep the ball bouncing? Do you want the capsule badly enough to risk losing a life? Do you want it at all? Both games raise their own particular problems.

ARKANOID

There are two basic strategies here: either go for the capsules that'll help you clear the screen most painlessly (progress) or for absolutely any capsule you can reach (points). The two aren't always easily distinguishable: grabbing a type of capsule you don't want forces the game to give you something else,



■ ARKANOID (ST) Go for the extra life (grey capsule) or play the ball?

so it can make sense for the progress player, and even the most ardent points merchant

will concede that on some screens a laser or glue is just too important to let go of.

The two capsules that really sort the sheep from the goats are extra lives and level passes. Progress players won't normally grab extra lives unless they can get back to the ball - if they'll only lose it again immediately, why bother? - while points players grab them come what may. So what if they lose it again? They've still got the bonus points.

Level passes are slightly trickier for high-score freaks: they may get you on to another screen and give you a whopping 10,000 point bonus, but they do stop you getting the points for remaining bricks on the screen. If the balls trapped at the top of the layout and doing useful work it can be worth hanging around a while. Progress players don't waste a second with such trivia of course: they only ever want to get onto the next



■ IMPACT (ST) A full load of tokens - save them or use them?

screen, so they dash for that portal without hesitation.

IMPACT

The trading structure for gaining extra powers here will have the wise progress player saving up tokens for something really handy and then swapping them at the critical moment. Occasionally this can mean deliberately letting tokens go - if you've got just

enough for a divide, say, but don't want to trigger it yet - but broadly speaking both types of player agree that catching tokens always makes sense. They want the tokens for completely different reasons however. Trading's the last thing on a points player's mind. He's after the cash alternative - cold, hard, high-score making points - and he'll get a whopping 9,000 of them if he can clear the screen with a full load of them. Of course if you're really good you can trade in for an early bonus - a wide bot, for example - and still have a good chance of filling up with tokens later on: not a risk most points players would take though, that one.

Some players think that all Impact powers are cop-outs and should be spurned regardless of points. These people are clearly limit setters.

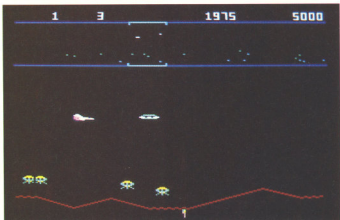
LIMIT SETTERS

Greed is perfectly reasonable of course, and any healthy points player will have a giant-sized helping of it, but darker, stranger motivations for going after points lurk in the depths. Perfectionism is a strong one of course, and the king-of-the-castle syndrome has given many a games player sleepless nights trying to reach the top of the high score table. But limit setting is something else again.

There's a little of the limit setter in all of us. Ever tried playing a collectable weapons shoot-em-up without collecting any of the weapons? Ever used lasers on a tough opponent in Elite even when you could easily spare a missile? That's limit setting for you.

Out and out limit setters are a breed apart. They're the sort of people who reckon it's bad form to use smart bombs in Defender. They aren't actually playing the same game that most of us are at all: they're making up new rules for themselves as they go along, trying to make things harder so that they can squeeze that last drop of entertainment out of a game.

The typical limit setter avoided treading on the cracks in the pavement when very young, and is still trying to break the habit



■ DEFEND OR DIE (CPC) Would a smart bomb be unappealing here?

now. Right-handed limit setters play old games left-handed for the challenge of it, and will eventually graduate to playing with the monitor off because looking where you're going is for sissies.

BODY BUILDERS

Progress is normally a matter of clearing the current screen, fighting your way past the next major obstacle or reaching the checkpoint before your time runs out. There are other kinds of progress that games can offer you however, the fashionable one at the moment being body building - self-improvement by collecting weapons or other bonus abilities.

Ever since the dual ship feature of Galaga players have wanted bigger and better craft to control. Whether it's flamethrowers in Green Beret, caterpillar tracks in Panzatron or drones and lasers in almost every scrolling shoot-em-up since Nemesis, additional weapons and features fire otherwise normal players with a very special kind of greed.

It's the idea of developing yourself from a single-spette weakling into a real tough cus-

tomor that appeals - the promise these games make that every day, in every way, you can get better and better. It's not what you can do with the extra features that matters: it's just getting them. More firepower! More speed!



■ XENON (ST) Collect this much weaponry and your lethal

SIGHTSEEING

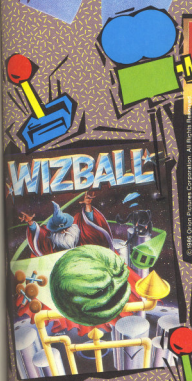
The true progress player's a compulsive explorer, a mountaineer type who absolutely must reach the next level simply because it's there. But the challenge isn't the only thing to go for: there's the view from the summit as well. For many players that's the real interest in making progress - just seeing what comes next.

Of course, in early arcade games what came next was very much the same as the stuff you'd been playing already, but programmers soon learnt the value of extra features or a change of graphics as a reward for progress. These days the bulk of programming effort seems all too often to go into these features and graphics at the expense of playability. As a result, an awful lot of games lose their interest once you've seen all the progress changes there are.

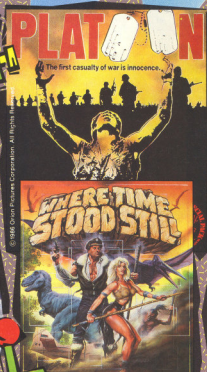
Though many games just get too tough for you to reach the 'point of stagnation', there are always cheat modes, maps or pokes to show you the bits you couldn't reach. That needn't spoil the game for you, but in practice the gameplay often isn't good enough to stand on its own once the element of curiosity is gone.

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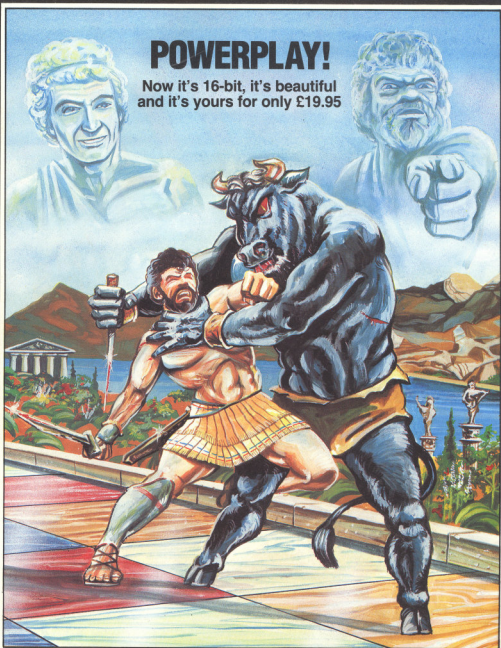
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ARCANA

Arcana Software Limited, 2 Clare Street, Bristol, Avon BS1 1XS.
Telephone Bristol (0272) 287162.

This month the Pilgrim continues his exploration of role-playing games with the excellent Bard's Tale II – just released and undoubtedly a major achievement for adventurers to revel in. Plus a host of other goodies covering every aspect of adventuring with your micro.

BARD'S TALE II

ACE
920
RATED

Excellent role-playing epic from ELECTRONIC ARTS

THE Bard's Tale was one of the best RPG's (role-playing games) released in recent years. It offers the opportunity to create a party of up to six adventurers with complex attributes and then take them off on a lengthy adventure through a well-illustrated gameworld.

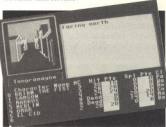


Bard's Tale II is everything you would want from a sequel. It takes all the best bits about the original and improves on them, so you get the same character system (and even the same characters if you want to transfer them from the earlier game) but a much larger map and a more complex objective.

Your party's objective is to locate the seven broken fragments of the Destiny

Wand, which has been stolen and destroyed by the mercenaries of the evil Lagoth Zanta. Each fragment is concealed within a 'Snare of Death' – a location full of tricky puzzles that must be tackled by the party in real-time. Once you've secured each fragment, you can retrieve the Wand and defeat the opposition.

What makes this game so playable is the sheer weight of gameplay involved in reaching your objective. It should take you weeks to complete, with several mini-adventures en route. There are six cities to visit, wilderness and forest in between, as well as a number of Castles. And that's not to mention the dungeons beneath the cities – dark, perilous mazes which harbour sudden death as well as fame and fortune.



The graphics window shows your location – kick the door in and then kick ass!

RELEASE BOX

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AMIGA £24.95dk IMMINENT

Other 16-bit versions including Atari ST and IBM PC

likely to be announced in the near future.

Transferring Characters

One of the best things about RPG's is the strong bond a player can build up with some of his or her more long-lived characters. An excellent feature of BT2 is the ability to transfer characters from a character disk created under BT1 – and, very interestingly, from Ultima III and Wizardry, two other popular RPGs.

On screen, your progress is accompanied by a small graphics window that shows the view in any of four directions from your current location. Narrow streets, strange buildings, and (outside the towns) forest and wilderness scroll rapidly by as you move about. Every so often you will encounter hostile creatures, from ogres to orcs, whose hideous form fills the window, with animated effects in most cases.

Gameplay is enhanced by the complexity of the scenario. First, there's the large map. Then there are numerous different character classifications and levels, based on seven different races (from half-orc to elf), six character classes including Paladins, Warriors, and Rogues, four Magic User categories, and six personal attributes for each player that determine his or her performance in battle. You can, of course, create your own named char

PILGRIM

Keep your distance

Bard's Tale I is very similar to its sequel in gameplay features, but lacks two important improvements: a larger map and the idea of 'distance' in combat. In BT1, when you're in conflict with an opponent you're in the thick of the fray, but in BT2 there's the added complication of distance between combatants. Over a longer distance (60 foot, for example) spells are less effective and hand-to-hand weapons are ineffective. At a range of 10 foot, however, the 'melee' really begins with swift hand-to-hand fighting taking the lion's share of the action.

acters, with their original attributes fixed by the roll of dice (which the computer does for you).

In addition there are an astonishing 79 spells and seven magical songs (which only Bards, of course, can sing). Combine all these factors with the variety of locations and puzzles and you have a very satisfying scenario indeed. Highly recommended for

all those who fancy a spot of battle and bravado in foreign lands – the emphasis, it

must be admitted, is more on action than IQ, but who could resist it?

Role on Issue Eight!

This month's RPG, *Bard's Tale II*, tries to give the adventurer the best of every possible world. You get complex character creation, a large map, AND reasonable graphics for the different locations. And even if a lot of the buildings do look identical from the outside, they can still spring some nasty surprises on you once you've kicked down the door!

Next month in Issue Eight of ACE we'll be looking at the famous Ultima games from Origen Systems. These games take a different approach on graphics from *The Bard's Tale*, with a map built up from small character-sized tiles – so you see more of the map on-screen at once. In other respects, however, they are closely related to BT2 and also to another older game, *Ring of Darkness* from Wintertsoft, which we'll be mentioning for the sake of nostalgia.

SYSTEM 87 ENCOUNTERS 90
CHALLENGE 94 LANDSCAPE 89
ACE RATING 920

LOADS OF MIDNIGHT

Epic satire from CRL?

EXCELLENT idea this – to do a take-off of Mike Singleton's epic release. CRL's Quillillustrated program features the adventures of Ludo, Morbid, Cordes, and Rotherham as they attempt to destroy the Crown at the Tower of Doom and win the War of the Franchise against the hideous Gloomport.

RELEASE BOX

SPEC £9.99s REVIEWED
No other versions planned

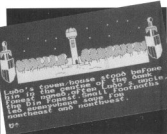
So, great idea. But not much of a game, unfortunately. Loading up the game raises the interest to begin with, especially when you see some subtly familiar graphics and realise that – in the early stages at least – the program manages to be quite clever at imitating its famous predecessor. The map lay-

out is also disturbingly reminiscent of the lands of *Midnight* and anyone familiar with the various citadels and plains of that domain should have a few laughs.

Naturally one of the best features of the original *Lords of Midnight* was the strategy element. It would have been nice to see some attempt to introduce a take-off of this in *Lords of Midnight*, but it doesn't appear.

And that's about all, really. The humour seems to weaken as you move further into the game and any serious take-off of Mike Singleton's game becomes a more and more remote possibility as you discover a space-station and find that a disturbing number of simple commands are not accepted by the program. Spelling mistakes that are initially amusing (horizontally, for example) soon become nothing but a symptom of poor game-testing and faulty execution.

Software companies that publish Quill and GACed games need to remember that



Looks like *Lords of Midnight*, but don't be deceived.

many of these games are written by people with little experience. A good company will give the programmer help, advice, and back-up that ensures the absence of simple grammatical errors and sharpens game-design. Then you can end up with some good products. Without it, you get something like this, which very few people will want to add to their collection.

SYSTEM 50 ENCOUNTERS 25
CHALLENGE 58 LANDSCAPE 60
ACE RATING 490

NO PROBLEM!

The Pilgrim's clue column returns this month. Don't forget that if you've got some handy tips for ANY adventure, then pop them on a postcard and send them in to:

No Problem! The Pilgrim, 4 Queen Street, Bath, BA1 1EJ

By doing this you get: your name on the page; other adventurers out of trouble; and the closest to immortality you ever likely to reach this side of Wizardhood! This month's tips are sent courtesy of Bigby, the Danish Wizard, which should put all you English half-orcs to shame. Come on, let's hear from you!

Mindshadow

To get past the angry crew aboard the pirate ship you need to be violent! Use the cleaver to cut the anchor chain, then walk the plank! Examine your drink in Rick's Cafe and 'follow man' to get a vital lead in the search for your lost identity.

Seabase Delta

Short switch with the fork to make the belt move in the right direction before climbing it. Blow a bubble with your gum to get an egg from the chicken. Throw pancake at the camera. Eventually make a seesaw, and 'play clowns'.

Robin of Sherwood

Capture the sheriff to escape from Nottingham alive. Kill Belme with the arrow, and take Marion to the location just south of the Grange. There's a man hiding in them bushes! If you only need one more touchstone and don't know where to find it, why don't you drop the silver arrow in the stone circle.

Dracula

Sign register, and ring bell before eating, and take care when choosing from the menu. Examine the eyes of the old woman in the coach, and wake up

when you've had enough! Lift seat in Dracula's coach, and use the cross as a key to get into the stowage. Wave cross when attacked by the female vampires.

Valkyrie 17

Try 'get poles' when outside the hut. Move the dustbins in the dark alley, but be sure to have aqualung and leg of lamb with you before you enter the sewers.

Temple of Terror

Kick sand at poster to enter the city. You could also walk right past him (go doorway), but clearly this is a bug (one of many!)

Kayleth

Spin bar to get past the Mokki Ray. To escape from Yagmok's quarters you need to ride the hoop.

Frankenstein

Ask the girl why she is weeping. Pray in the church and say hello to the young priest. Hit anvil thrice then ask for a job.

◆ The Travellers' Times

Edited by: The Pilgrim ● Honorary Editor: The White Wizard ● Published by Far-Future Publishing
Price: Free with every issue of ACE Magazine.

INFOCOM GO HOLMES

Infocom's latest release takes us back to Victorian London and sets Dr Watson and Sherlock Holmes in pursuit of the stolen Crown Jewels. The player takes the part of Watson, who has sole responsibility for solving the crime, although you can also confer with your distinguished colleague during the game.

This release is part of Infocom's expansion into other gameplay areas. To start with, there are the now-familiar on-screen hints as well as the usual Infocom paraphernalia (which in this case includes a tourist map, newspaper, and key fob). In addition, ST and Amiga versions feature sound effects – a first for an Infocom product.

But is it an Infocom product? The company are now accepting programs from other sources rather than developing them exclusively in-house. Infocom's (see last month's *Travellers Times*) were the first example of this, and now we have this game, produced for Infocom by Challenge Inc. Recent titles have not been as strong as some of the older, in-house programs, so keep your fingers crossed and read the review in next month's Pilgrim column.

Gulf Crisis for Activision

Activision are about to release their first game from new programming house Abstract Concepts, run by Anna Popkess and (in the background) Fergus McNeill. Mindlighter has some excellent graphics, a strong story-line, and a number of very attractive programming features.



Southampton after the bomb – not much different from before, eh?



Fergus McNeill and his fiancée Anna Popkess – creative partnership.

Psychic young Robin finds himself in a post-nuclear Southampton where a fascist regime is making life rather nasty for the locals, who – with radiation sickness and nuclear devastation – have

got enough on their plates already. Robin (who is visiting the time zone while in a trance) returns to pre-holocaust Southampton to prevent the Third World War from taking place.

The game is produced using Level 9's new programming system, specially produced for them by (among others) Tim Gilberts of Gilsot. The professional background to the programming really shows, with system features like SCRIPT and SAVE being controlled from an icon-driven menu screen. There are twelve interactive characters to... interact with (using the traditional SAY TO name "MESSAGE" format) together with RAMSAVE and RAMRESTORE. There's also an unusual feature whereby the main character will start to autopilot – so you don't enter a command for three minutes – so you have to keep on your toes, although of course you can pause the action if need be.

Meanwhile Fergus is hard at work on projects for his Delta 4 label, and we should have some news of Smirking Horror in the very near future.

A THOUSAND KISSES

Soren Bang Hansen, Danish adventure supremo, points out just how difficult it is for adventurers abroad. If you thought The Pawn was tricky, wait till you tackle a game where a typical location description might read: De er i en mørk og uhyggelig gang uden vinduer. Makes the Goblin's Dungeon seem like an open door...

Most Scandinavian adventures probably know me from the Danish IC RUN magazine, where I run a regular adventure-column (the biggest in any non-English computer magazine) featuring a clues helpline, news, reviews, and even complete solutions now and again. I understand that the latter is a matter of much debate in England, but there is a great demand for this service throughout Scandinavia, and I certainly don't have any 'moral problems' because of this. As you will see, there is a particular reason for this. Read on, and find out why playing abroad is often considerably more difficult than most English-speaking people realise.

LINGUISTIC DIFFICULTIES

It is a well-known fact that the vast majority

of professional adventures are written in English, and if this happens to be your native language then of course everything is just fine! But those of us who live in a minor language area are a lot less privileged. How do you go about playing adventures in foreign tongues?

Outside Britain, USA, Australia etc, succeeding in an adventure game is not only a matter of solving logical puzzles. Often the most difficult task is hitting upon the particular word or phrase required by the program in order to perform certain tasks in the game (the dreaded 'Sipion' fuel command in Channel 8's *Circus* is one such example). Also most of us know to our cost that it is essential to be closely aware of what the text descriptions actually say, as often there are



vital hints embedded in the text. This means that you have to understand every single bit of it, which goes to make an English dictionary an absolute necessity.

Still, if you have some fundamental knowledge of the English language, then with perseverance it is usually possible to win through. The only exception that I have come across, during my long life as an adventure reviewer, is Infocom's *Nord and Bert*. I recently reviewed this game in 1C RUN and it was the first ever Infocom game that I could not recommend to my Scandinavian readers. Even I (who have some experience in translation work) just couldn't make head or tail of this game (You're not the only one. *White Wizard*.)

THE GAMES WE PLAY

Needless to say, the linguistic barrier also has great influence on what games we play. It sure makes a great difference whether you're playing a rudimentary pre-Pawn graphics adventure, or exploiting the atmospheric environment in the latest text-thriller from Infocom! Thus, the most popular adventures on this side of the Channel tend to be those with nice graphics and a minimum of text. To give you an impression of the games we Vikings puzzle over, I have compiled a chart based on the number of mentions a game gets in my helpline mail. The list shown here is for mail received during 1987.

1. Kentilla (Mastertronic)
2. Borrowed Time (Activision)
3. Volkrye 17 (RampJam corp)
4. Arrow of Death (Channel 8)

Danish Dynamite

Ever played a Danish adventure? Thought not, but just imagine what you would do if you were confronted with a text description like this:

De er i en mørk og uhyggelig gang uden vinduer. Kun faa af jer kan forstaa dette!

This location description is from the latest and best Danish adventure I've seen for a long time. It's called 'Tusindkys' (Danish for 'A Thousand Kisses') and is a graphic adventure for the Amiga written in compiled BASIC by one Søren Lutzen.

The game is a funny little story in which your quest is to prepare yourself and your home for a nightly visit by your girlfriend. Before you all go green with envy for not being able to actually play this adventure, there's a point I'll have to make. The overall standard of Danish adventures is generally far below that of English and American games. But despite that, it is always a refreshing experience to play a game, rudimentary as it may be, in your native language!

5 Biron of Sherwood (Adventure Int)

As you see, there isn't a single Infocom game among these five all-time classics. However, Infocom do have their own band of loyal and dedicated followers - in Denmark like everywhere else. And I'm one of them! It's just that there's an awful lot of text to digest.

Another common problem facing a Scandinavian wizard is that of getting hold of

copies. The adventure market is a relatively small niche (especially in small countries), and many software retailers simply don't stock anything which doesn't contain some element of joystick-waggling. Consequently, I know of many adventurers who order their adventure software directly from England.

Possibly the most important point to make in this connection however, is that it an adventure (or any other piece of entertainment software for that matter) is to really succeed in Scandinavia, then it MUST be for a Commodore computer. For the last 3-4 years the Commodore 64 has been THE home computer over here, and there can be little doubt that the Amiga is the next step forward. Alan ST is a word which just doesn't appear in our dictionary!

THE GOOD POINTS

Okay, so playing in English can be frustrating sometimes. But there is at least one important point which I haven't mentioned, that of education. I speak from experience when saying that next to actually staying in England, I can think of no better way of learning the language. The only thing the computer can't teach you is how to pronounce the words correctly. (Warning! If you play Pawn on the Amiga, do leave the speech option off. It could seriously damage your English pronunciation!) Anyway, I earnestly believe in the use of adventures for educational purposes, and I think the education authorities should consider the potential of this new media in language instruction, both here in Scandinavia and elsewhere.

PAT'S PATCH

Quill and PAW have a built-in wear/remove routine but GAC does not. Pat plays wardrobe mistress in this month's column especially for those who like to create their own adventures....

GAC's lack of a built-in wear/remove routine was pointed out to me by Robert Lane of Mansfield in a recent letter. Robert sent a routine for wearing things in GAC which dealt with specific objects. Using this I've extended the idea to allow automatically wearable objects to be handled.

First define all wearable items as having object numbers above 100 and ensure that their nouns have identical numbers. Also define the verbs 'wear' and 'remove' and allocate a free room (I'll use 200) as the player's 'worn store'. Then enter messages as in the conditions in Figure 1.

Condition 1 checks that the object is wearable and carried, drops it (you must do this or the weight carried will become distorted) then sends it to the worn room.

Conditions 2 and 3 print appropriate messages if the object is already worn or not available (in that order otherwise 'not avail' would trap objects worn since they're not available).

Condition 4 covers objects which are not wearable.

Condition 5 brings the object from the 'worn' room but doesn't try to get it in case the player is already carrying the maximum amount.

Condition 6 deals with objects not currently worn since it is checked only if condition 5 fails.

Condition 7 (which replaces the standard inventory condition) tells the player about both carried and worn items.

[NB. The 'x IN y' condition is incorrect in the GAC manual and should be used as '(room) IN (object)' ... NOT '(object) IN (room)']

If your adventure had only one wearable object it would be simpler to define two objects for the wearable item and simply swap them around using the conditions in Figure 2. There's no need for a special inventory condition.

Listing 1 - MULTIPLE OBJECT ROUTINE (Low Priority)

- ```
1) IF (NO1 > 100 AND VERB "wear" AND CARR
NO1) DROP NO1 NO1 TO 200 OKAY END

2) IF (NO1 > 100 AND VERB "wear" AND 200 IN
NO1) MESS "already worn" WAIT END

3) IF (NO1 > 100 AND VERB "wear" AND NOT
```

AVAI NO1 ) MESS "it's not here" WAIT END

- ```
4) IF ( VERB "wear" AND AVAI NO1 ) MESS "you
can't wear that" WAIT END
5) IF ( VERB "remove" AND 200 IN NO1 ) BRING
NO1 MESS "you remove" OBJ NO1 MESS "and
drop it" WAIT END
6) IF ( VERB "remove" ) MESS "you're not wear-
ing that" WAIT END
7) IF ( VERB "inven" ) MESS "You are carrying"
LIST WITH MESS "you are wearing" LIST 200
WAIT END
```

Listing 2 - SINGLE OBJECT ROUTINE (Low Priority)

- ```
1) IF (VERB "wear" AND NOUN "gloves" AND
CARR "gloves") "gloves" SWAP "gloves (worn)"
OKAY END

2) IF (VERB "wear" AND NOUN "gloves" AND
CARR "gloves (worn)") MESS "already wearing
them" WAIT END

3) IF (VERB "remove" AND NOUN "gloves" AND
CARR "gloves (worn)") "gloves" SWAP "gloves
(worn)" OKAY END

4) IF (VERB "remove" AND NOUN "gloves" AND
CARR "gloves") MESS "not wearing them" WAIT
END
```

Yes, folks! That ol' *Leaderboard* controversy just keeps rollin' along. Is it or is it not possible to get a hole in one? There are those who say they've done it – and there are those who say it cannot be done. And, at long last, the women are having their say on the sexism debate.

ACE Prizes go this month to Grant Punchard – that man is so plucky in defence of his Speccy; to Anonymous of Great Budworth for his tale of Yuletide woe; and the Letter of the Month is from Michael Ormond of Glasgow for his trenchant criticism of the GEM operating system.

Make sure your views are heard – and give yourself the chance of picking up a software prize – by writing to ACE Letters, 4 Queen Street, Bath, BA1 1EJ. Don't forget to say what software you would like if you get lucky.

### ● Fairy godmothers

Once upon a time there lived two humble artists who were proud owners of an ST. Oh! the joy of the 512 colours on the palette and 16 colours on their pixelated canvases – a

mightily leap from their Electron.

But one fateful day, a wicked witch cast a spell on them, making them greedy for more colours on their canvases. They heard of such things as *Quantum Paintbox* and

*Spectrum 512* offering them hundreds of colours on the screen. They found with *Quantum Paintbox* that their canvases had to be split up into different sections; was this so with *Spectrum*? Alas they did not

### ● Tarnished GEM

They certainly don't make computers like they used to. That was my first thought on switching on my new Atari 520ST. And how right I was. What's this bloody GEM user interface? Okay, it's fair enough on the IBM PCs alongside Microsoft Windows, and in fact I found it very useful, but that was probably because I could switch it off.

I remember when I first got my ZX81 and I could quite happily sit for hours on end conversing with its user interface but with GEM it's rather a one way conversation. I have owned a lot of computers since my faithful Sinclair and have used a great deal more but the ST is the first I've come across that won't let you do anything unless you've got some software to hand.

Picture the situation. I'm sitting studying for my analogue Electronics degree exam. I need to calculate a relatively simple equation. To get my calculator would require excessive muscular effort so I turn to my ST to do the sum for me. Speed is of the essence. What do I have to do? I have to load the Basic language first, that's what! The only version of GEM I've seen that doesn't have a calculator facility, and it needs it the most.

Is that an ST owner's manual I see before me? Come let me clutch thee. I have thee not and yet I see thee still. Art thou not a teeny bit small for an owner's manual? I mean, I've heard of economising but not including a thorough guide to ST BASIC is a

bit ridiculous.

The machine itself though has a number of redeeming features. The keyboard, though not quite IBM standard, is perfectly adequate and the audio feedback is very useful. The mouse is better quality than I had expected and must make life a lot easier for the less computer literate among us. It has a parallel printer port, which is not mentioned in your pink pages. The disk drive is fast and quiet. And the screen display on my TV is excellent, far better than any I have seen before. I still can't quite believe that I got all this for £269.

No doubt I shall be even more impressed when I get some games software and I can't wait to lay my hands on an assembler and a version of PASCAL (can you recommend any particular software for either purpose?).

This First Word Plus word processor is really excellent. It's so much easier to control the type styles and formatting than with other WPs I've used.

As I said at the start, they don't make computers like they used to. Most of the advances that have been made are almost unbelievable. (I was playing on an Archimedes the other day – why won't it let you loop the loop in Zarch?) I think though, that Atari, in trying to make the ST more user friendly have only succeeded in adding an extra degree of abstraction between the user and the machine. It is like where once you could program in assembler you

## LETTER OF THE MONTH

are now being forced to program in PASCAL with all the inherent limitations and information hiding this step involves.

Michael E Ormond  
Glasgow

Should an operating system come between you and your computer? The idea behind GEM – and its predecessor on the Apple Macintosh and Lisa – is that users are able intuitively to operate the machine. Somehow or other you're supposed to grasp the meaning of all those woe icons and symbols. As you can gather, I don't believe it's as simple as this; a WIMP system needs to be learned, just as a 'command-line' system such as MS-DOS. After working on the Mac for quite some time, I believe that a decent WIMP system does make things easier – file management in particular. But I still can't help being annoyed by the silly little pictures and smarmy 'humour' of it all.

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know. They knew of a HAM mode on another computer which did not cut up the canvas; they hoped Spectrum 512 worked like this and that their fairy godmother ACE would tell them. What a sad story. Let's hope their wishes come true and they will be answered!

Alex Komlosy  
Ware

## ● Forbes of Arabia

I am a British subject working in Saudi Arabia and am writing to ask your advice on a matter of compatibility of the CBM 1081 monitor. At the present I own an A500 and the 1081 monitor and I wish to buy an Atari 520 ST FM. Can the Atari be used with the 1081 monitor? (with a suitable lead of course) Also I wish to congratulate you on producing a magazine that is bereft of the petty arguments over Machine vs Machine that one encounters in many 'dedicated' publications! Every month I receive ACE sent from the UK, after a very thorough read and re-read, I pass it on to my colleagues (most of whom are Americans), whereby they argue over who gets to read it first. For their information, can you offer subscriptions to overseas readers? Apparently, they have nothing like ACE in the USA. If I am lucky enough to be 'Letter of the Month' can you give the reward to some deserving charity. All I ask is that, you can carry on the good work in producing such an excellent magazine. For me, it really is something to look forward to every month.

Harry Forbes  
Damman, Saudi Arabia

You can certainly subscribe to ACE

## ● Leaderboard

Firstly, in reply to S P Law's letter last month, I have achieved a hole in one of *World Class Leaderboard* - but only once!

Secondly, why don't you introduce a PBM (Play-By-Mail) section. I'm sure it would be very popular. Thirdly, goodbye

Carl Kuttelwascher  
Camberley

Concerning a letter from SP Law of Warwick in ACE issue 5. It is impossible to get a hole-in-one at *Leaderboard* because the flag fills the hole and doesn't move until the ball has stopped on the green.

Mark Preston  
Brantham

I reply to S P Law of Warwick question about getting a hole in one on *Leaderboard*. I have not got a hole in one on *Leaderboard*, but I've got

from the States or even from Saudi - but it's going to cost a bit more than in the UK. Airmail outside Europe costs £27.95, payable in Sterling. As for the CBM monitor-ST link up, we've tried it here but can't see any simple way of doing it. (Which isn't to say that it can't be done: more news on that as soon as we've got some.

## ● Stocks & shares & videos

I am retired and am interested in buying a computer for personal use rather than business purposes.

My main requirements are that it is able to print:-  
1) A portfolio for stocks and shares  
2) To put captions on Video films  
I understand that any of the Amstrads can do (1) but not (2), and that the Amiga can do (2) but not (1).  
Can you advise me what computer I should be looking for?

Arthur Kettles  
Rayleigh

You're more or less right: you can get portfolio management software for the Amstrads, but nothing that will produce video titles. The Amiga will do the vids, but there doesn't seem to be anything to manage your stocks and shares. The thing to bear in mind is that it's unlikely that there will ever be video titling software for the Amstrad, but it's very likely indeed that someone will bring out a portfolio management program for the Amiga.

## ● Programming courses

I was wondering if you could help me. I am a 13 year old Amstrad 464 owner and I'm really into my com-

a hole in one on *World Class Leaderboard* for the Amstrad CPC. The graphics are disappointing compared to the Commodore 64 version. What is even more annoying is the graphics are in the lowest resolution screen mode that the Amstrad can produce.

M Gendon  
Norwich

Yes, my dad and I have had hole-in-one on *Leaderboard* on the ST. In fact, everyone on our table at school (2 Specs, 2 64's 1 ST) has *Leaderboard*.

Matthew Pedersen  
Buckingham

These letters don't seem to bring us any closer to discovering whether or not you can get that elusive hole-in-one. Can anyone come up with a definitive answer?

puter. I've always wanted to learn how to make (program) my own games, but I haven't had much luck. I've read all the books I could get hold of, about Sprites, War Gaming etc. but as they are explained in such a complicated way, it is impossible to understand them.

I was wondering if you knew of any programmer's courses that would teach me how to make games on the Amstrad 464 for money. I would appreciate it very much if you could find this out for me.

Name & address withheld  
to spare embarrassment

We know of no course specifically aimed at games programming. Most people who write games professionally are either self-taught or have studied computing/mathematics at university. There are evening classes run by local authorities, but these won't necessarily be what you're looking for. I suggest you try teaching yourself machine code - Amstrad Action's series *First Bytes* is as good a place as any to start. If you don't take to that, then perhaps you should try a DIY game program such as *Shoot Em Up Construction Kit*.

## ● Easy Cars?

I was wondering how many people find *Crazy Cars* on the Amiga easy? It's quite a good game, but it seems a bit simple, as just after 4 games I was driving the Ferrari no trouble. In fact I wasn't pleased to say I completed it and it put me straight back to the bork in the merk (Mercedes) and then I completed it again on the same game and I could have gone on at a score of 59320120000000 but it was just getting boring over taking the same old cars with the same old levels I just gave up and stopped. Yours respectively,

Roger Prynn  
Reading

## ● Irish users

I have been an ST user for over six months now and to be totally honest there is very little support for ST here in Ireland. Instead of sitting around and waiting for someone to start up a user group, I have now decided that I will start one myself. I am at the moment compiling a newsletter (with the help of a few friends). We also have a lot of P.D Software between us and we also have made a few of our own music demos.

As the name suggests we are looking for Irish ST owners interested in joining our group, but we would like to hear from anybody anywhere. It goes without saying we would love any of your readers to send their Demos and P.D software to us. All disks will be returned and we will add a few demos of our own.

If you are interested send a SAE... of for UK or Europe an Inter-

national Reply Coupon. You can tape 50p to a piece of cardboard in UK or IRL. If you send us demos we cover return postage in return you get a list of our Demos and first newsletter. I would like to thank you for giving us the chance to publicise our new group.

ST Ireland  
Mark E Kinsella  
Johnstown, Sea Road  
Arklow, Co Wicklow, Ireland

We're happy to print your letter to help you get going: if you want to advertise your existence once you're established, don't forget the Readers Pages in the Pink Pages.

## ● Atari SX?

After reading your letters page I feel pretty relieved because I bought my ST the day W. H. Smith dropped the price to £300, as it makes me lucky enough to have an 'old' machine which runs everything. It's pointless to make a better compatible ST because the software houses will always write for the base model ST upwards - they certainly won't produce special blitter versions for the few thousand people who will upgrade and might just buy the program.

Once a machine has been successfully launched it's best just to publicise the bugs so programmers can write around them. This worked very well for years on the Spectrum 48K, which went through several hardware versions all having exactly the same ROM (and the same bugs). Consequently every 48K Spectrum ran every 48K program with no problems.

Unfortunately Sinclair then stuck their feet firmly in it when they produced the 128K machine, which in theory should have been firmware-identical to a 48K machine when in 48K mode. When they added the comparatively useless calculator to the 128K machine, they put the code for it in an unused area of the 16K ROM used in 48K mode. Many programmers working in interrupt mode two had been using that area (full of hex FF's) as a jump vector table, and their programs would not work on the 128. Also lots of copy protection schemes unscrambled the code as it came off the tape parity by XOR-ing it against the ROM, and would not work with the altered ROM.

If Atari really want to produce a blitter machine, (and they should), to compete with the currently superior Amiga) they should also throw in a GOOD sound chip, perhaps 512 colours on the 'Atari SX' or something. Meanwhile they should leave the ST completely unchanged, instead of unsettling the software base for it. If Tramiel produces an SX I'll buy one to keep my ST company...

Graham Galbraith  
Walsend

While you're at it, why not suggest to Jack that you take over the company and set it on the right road?

### ● Girls talk

I am writing to add my say to the debate of sexism in computer games.

Everyone seems to be leaping to the defence of us poor, exploited girls. Well, I don't feel at all exploited just because Maria Whittaker is earning money in her own way. The idea that all women are being disgraced by this is the equivalent of saying that all English people are suckers because one of them is conned.

Finally, I thought I might like to say that Neil Wilson (letters-issue 5) is the most big-headed self opinionated prat I ever heard of. Less on the 8-bit machines indeed!

**Ms J Warner  
Wellington**

I did not see D Panayi's letter in issue no 3, since issue no 5 is the first copy of your very excellent magazine that we have bought. I can very well imagine how it went though, since we have heard it all before, about the exploitation of women about the abuse to all woman-kind because some well endowed female choose to uncover more than some prude thinks they should.

I, as a woman, am not in the least bit offended at the sight of another woman's scantily clad or naked body. Girls such as Maria Whittaker know exactly what they are doing, and they have the bank balance to prove it.

If the truth were told, it's not they who are being exploited, but the men who constantly clamour for more.

**Mrs R Rainford  
Hollesley**

Well, it's real nice to get - at long last - some letters from women on this subject. But I wonder just how representative these opinions are? Would any more ladies care to join the debate?

### ● Piracy made 'simple'

I have come up with the following 'simple' statement concerning software piracy:

Piracy causes higher pricing of software. Higher pricing of software causes further piracy. Further piracy causes irreparable damage to small software houses. Irreparable damage to small software house causes the narrowing of software availability. Narrowing of software availability causes less software, which ultimately results in more piracy.

To conclude, it can simply be said that with piracy causing higher prices, higher prices causing more

## ● Punchard is back!

Thank you for publishing my letter in defence of the Spectrum (Feb 1988) and for your generally fair response. You did, perhaps, slightly miss my point though, that the Spectrum has as much right to be considered as a games and 'serious' machine as any of the 8-bit machines. Indeed, when one considers such excellent software as *The Writer* or the *Tasword* series (which eliminate the 32 column text limitation) I think the Spectrum is probably better supported than any other 8-bit machine in terms of serious software. As you quite rightly observed, I am 'making-do' with my Spectrum for business applications, but so do owners of C64's and CPC's etc when compared against Amigas, PC-Compatibles and the like. I don't want to labour the point, so will you at least concede that the Spectrum, although a bit long in the tooth, is a versatile machine which offers unparalleled value for money, and we'll call it an honourable draw?

At the risk of becoming boring, I'll move on to my next point, hoping you can provide some answers. Being a dedicated Spectrum fan, the logical upgrade for me would appear to be a +3. I have, however, heard disturbing rumours about serious compatibility problems, with existing 128K software either not running or running with corrupted sound. Also,

alleged reduced RAM-disk capacity, slower Basic and inability to accept existing peripherals (such as my much prized Echosoft synth etc) are rather worrying. There must be a lot of Spectrum owners who want to know if these rumours are true and so I would be very grateful if you could provide some definitive answers.

Next, if there are any non-Spectrum owners still reading, I would like to express my views on the more general subject of sex and violence in computer games. I feel it would be extremely difficult to draw up guidelines as to what is/is not acceptable, as we all surely have our own inbuilt values of right and wrong. It is obvious to most of us that CRL's 18 certificate for *Jack the Ripper* was a cynical publicity stunt appeal to those who enjoy X-rated films. My opinion is that the responsibility lies with magazines such as ACE to present as objective a review of software as possible, whilst highlighting any areas of blatant sexism, titillating violence, excessive nationalism etc, and to let each reader decide whether or not to purchase on this basis. The sales figures will soon reveal what is and is not acceptable to the public. To quote an example, I once played a game called *Raid Over Moscow* on a friend's Atari. Whilst the game-play was quite good, I would certainly

**PRIZE  
LETTER**

never buy this product, as the realisation that it was not just some abstract blob of pixels I was shooting, but meant to be Russians, was to me at least rather disturbing.

**Grant Punchard  
Aldershot**

Well, I will concede your point and call it an honourable draw - if only to keep you to your promise not to send us more missives on the topic of the Spectrum's worthiness.

As to Spectrum +3 problems, we haven't heard anything about them; shouldn't you be thinking about upgrading - dare I say it? - to something just a mile more powerful? *Raid Over Moscow* certainly was a disturbing game, but did you know that public pressure forced US Gold to rename it simply as *Raid*? If people shout loud enough, things can get done.

piracy, more piracy causing damage to small software houses, damage to small software houses causing less available software, and less available software causing more piracy, the software industry is slowly being destroyed.

Piracy is illegal; piracy is damaging; piracy is wrong. I do not believe any pirate can justify their actions.

I hope this has clarified the problem!

**M Pease  
Norwich**

If anyone can follow your intricate chains of reasoning, then they may well agree with you.

### ● Archie software

Do you know of any new releases for the Acorn Archimedes? If you do could you please send me some information on them. I think the Mac's brill - keep it up.

**Richard Thomas  
Bishops Cleevington**

The next big release for the *Archie* - on the games front - is likely to be *Conqueror* by Jonathan Griffiths, from Superior Software, due out very soon now. Apart from that we don't know of much coming *Archie*'s way.

### ● Crash corner

I feel I may be of some assistance to Darren Moore, and any other people having problems with unexplained computer 'crashes'. After reading D. Schofield's letter in the March issue I feel I must make a few comments. Although changing a 3 amp fuse to a 5 amp may stop the fuses blowing, has anyone thought to themselves, why are they blowing? If you follow this procedure of simply replacing the fuse with a bigger one each time it goes, you are asking for trouble! Anyway, I cannot possibly see any benefit by replacing the fuse except maybe allowing more mains spikes to enter the computer.

Now I won't go over the top here explaining about power surges and 'dirty' mains, but will make a few points.

Firstly, using 'double' adaptors is not a good idea as they do not permit a clean flow of power to the computer (come to think of it, nothing does!) and can cause problems with spikes etc: it is much more sensible to use a 'trailing' socket (plug board) instead, as each unit then has a separate plug and of course a fuse.

Secondly, I cannot see how moving the computer to another room will help a game load, as you are using the same power supply.

The amount of power a computer consumes is very small, say one Sanyo only takes 11 watts (that's roughly 1 tenth of a 100W light bulb), printers use approx 80 watts and TVs around 70W.

The fuse rating therefore reflects this. Would you put a 3 amp fuse in your 2 bar electric fire (2kw)? Nope, neither would I. In short I would not recommend anyone to put a higher rated fuse into any appliance other than that stated. If you still get unexplained 'crashes', as a last resort, buy a mains filter. These are simple boxes that fit between the socket in the wall and your equipment, and eliminate most of the power surges and spikes that otherwise cause us to tear our hair out! I hope this will be of some use to someone out there.

**Brian McCalmont  
Co Down, NI**

### ● That ol' rubber devil

Help! I'm in a bit of a pickle and you can most certainly help me.

I am one of the elite few that still own a rubber-keyed Spectrum. I have been considering getting a more up-to-date and different computer. This happens to be in the shape of an ST with mono monitor. I was wondering if the ST is as good

was wondering if the ST is as good as it is cracked up to be and would it give me value for money? And is it worth trading in my Speccy or is it worth selling?

**Alex West**  
Norfolk

Well, the ST is a real nice machine, and you're unlikely to be disappointed with it. But is a mono monitor really what you want? If you want to play games or get in to graphics, then perhaps you should stump up the extra cash for a colour monitor, or just use your TV set. I don't know if any dealers will take your Spectrum on part-exchange but if they do, I doubt that you'd get what it's worth. If you're going to get rid of it it's probably better to sell it, especially if you can also offer your software collection.

### ● Deluxe Paint for ST?

I was wondering if you could tell me whether any of the Deluxe Paint range (for the Amiga) would be available for the Atari ST. Even though there are a few paint programs out for the ST, none of them really match the capability of the Deluxe range.

**Matthew Owen**  
London

Electronic Arts tells us that there are no plans at present to produce versions of the Deluxe range for the ST. If it were to happen, it would be quite some way in the future.

### ● Back Issues

I am interested in obtaining back copies of your magazine ACE. The issues required are issues one to six. Please let me know the cost of these magazines and I shall send on the money.

If possible I should also like to obtain current and future copies of ACE. Thanking you in anticipation.

**Mel Mc Carthy**  
Co Cork

For back issues of ACE you should contact our Somerset office – the address and phone number are on the Contents pages. The price is £1.50 but hurry – there aren't many copies of the early issues left. If you want to get ACE regularly through the post the best thing to do is take out a subscription; see the offer and form on page 99.

### ● Arkanoid – that head

Please could you give me an explanation on why after six months of battling through 32 screens of Arkanoid, on my Speccy +2 and getting absolutely nowhere on THAT HEAD (The last screen) on

## ● Christmas tragedy

"Death, where is thy sting! I cry... I am writing to tell you about the most disastrous Christmas Day on record. It was Christmas Day and I had just spent a good quarter of an hour setting up my new Amiga. At last it was ready, and after spending the morning reading the manual I switched it on. In went the Workbench and I surveyed its functions, before falling asleep with boredom. I took out the Workbench and reset the computer. Then I tried to insert the game, Test Drive which cost me two Christmas presents and one month's pocket money. "Dismay" I screamed, (or something to that effect), the disk didn't click into place. I tried again for an hour or two we packed the computer away so we could take it back to the shop as soon as possible. I then spent the rest of the day thoroughly miffed, in front of the TV.

Come Boxing Day and we tried to phone the company we bought it from, there was no reply. Sunday came and there was still no reply. I was getting worried now and I just couldn't stop thinking the dealer had left the country after selling off faulty computers before Christmas.

I decided to try just once more, so full of hope I lifted the computer

the original tape, why should it be so easy to get through THAT HEAD on Arkanoid on the new release (Magnificent Seven). In the original tape a lot of aliens come at you from THAT HEAD's mouth as soon as you get through to it. But as soon as you get through to THAT HEAD on Magnificent Seven, no Aliens. Could you give me a reason why this is so. So therefore to conclude, a tip for your Tricks 'n' Tactics page would be to get Arkanoid on Magnificent Seven TO BEAT THAT HEAD.

**Mr F E Perks**  
Cudworth

We haven't really played the Mag 7 version of Arkanoid, so we can't offer any advice. But there must be readers out there who can offer advice.

### ● Outrageous Out Run

Well, we've just received our copy of Out Run for the Spectrum and 48K and loaded it up. What a disappointment that needn't have been!

Okay perhaps, there isn't much to be done about the music, given the spec's limitations, but we can live with that – just stick the sound track on. But the colour!

This is where a potentially excellent conversion falls miserably. The same fault occurred with Enduro Racer. The backgrounds were fine and in Out Run, the top half of the screen is okay. But when you get down to the mountains,



out of the box and slid in a disk, "click" went the computer "thank god" I shouted. I then proceeded to play on it for the rest of the day. For me Christmas had just begun...

Please tell me why the disks wouldn't be accepted and how it could possibly work again just like that.

**Anonymous**  
Great Budworth

A sad tale with a happy ending – there wasn't a dry eye in the office when I read it out. And just to make sure you stay happy, we're giving you a nice prize. Why are we such nice people?

roadway and the gleaming red Ferrari Testarossa, you encounter these murky BLACK things and somewhere amongst that chaos is you, the car and the girl.

It needn't have been like this. The use of blue for the road graphics would have improved appearance tremendously and where is the RED car?

Super Hang On was closer to being on the "right track" – at least the bike had some colour in it.

So, there is our opinion. The avoidance of black would have made a world of difference. This game should be recalled and corrected. Then it would give the pleasure that it comes so close to doing.

**Frank & Lee Frank Leyland**  
Merseyside

We've yet to find anyone who's been satisfied with Out Run. We certainly weren't.

### ● Happy destruction

Continuing the discussion on violence in computer games I would like to express my personal views. A few nights ago I was watching a documentary about the Hungerford killings and remarking to myself how terrible it was whilst playing Into The Eagles Nest and happily destroying hundreds of men myself.

I believe that people like me do not enjoy playing a shoot-em up like this because they are causing deaths and may get into the Hall of

Fame. It would make no difference to the average game player whether they were shooting humans or mutant rubber ducks.

Although I do not condone the marketing of such violent games, I really cannot see how they can cause such apparent damage to the players' minds.

**P.J.B**  
London

### ● Another idealist

I would firstly like to say that I think ACE is very good value at £1.50, considering what it offers. However, there are a few things that could be altered to improve the magazine.

Firstly, considering that you are catering for all computers, don't you think that four or five pages is a bit mean? Secondly, could you make the PBM column bi-monthly rather than an occasional feature. Thirdly, why don't you do a series of features on public domain software? And finally considering that the magazine is Advanced Computer Entertainment, do you not think that the Comms World deserves a two or three page regular slot? In it you could review the software, interfaces and modems available for the different computers, as well as the services such as Prestel, Micronet, and the scores of bulletin boards.

I hope that by making these comments I have not demeaned your magazine, or that you will not just throw this letter away, thinking 'Oh there's another idealist'.

**Julian Catter**  
East Sheen, London

Julian – we adore idealists. To take just one of your suggestions, we plan to do something on the world of comms real soon now.

### ● Christmas cracker

For Christmas I had a Spectrum 128 and I thought that Gaultier looked like a good game so I bought it. I played it over and over again, and thoroughly enjoyed it. One night I was playing it and something strange happened. I was on screen 43 when my health went up to 10,000 and exits just appeared from nowhere – lots of them, not just one. Then I was transported to screen 70. I thought there were only 64 screens so I was surprised to see this.

I kept on playing and this kept on happening. Before I knew what was happening I was on screen 173. Is this because of a bug or are there that many screens? Have you ever had this trouble? Please tell me your opinion on what it could be, as I know you could.

**Nathan Skinner**  
Credition

We invite readers' comments on this strange phenomenon.

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\*ST version imminent

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\*ST version imminent

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| CBM 64 disk    | 12.95 | 10.95     | A119CD     |
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Mike Singleton, programmer extraordinaire, talks to Steve Cooke about Maelstrom Games and chartbusters to come.

# INTO THE MAELSTROM

I think I'm going to write a text-book on vector graphics after this,' murmured Mike as I gazed in awe at the 3-dimensional display he'd just set up on his ST. I kept quiet, as anyone would, because I was furiously trying to work out just how anyone could get a machine to do what I was watching at such pixel-scorching speed.

'Actually it's easy when you know how,' said Mike as the spinning polygon shimmered off into deep space. 'but that's exactly what I'm not going to tell you! Who cares about the technicalities, though, since this game - *Whirligig* - should be showing soon on an ST somewhere near you. Mike looks as if once again he's going to dazzle the games world by taking an existing format - in this case, the 3D shoot-em-up - and completely transforming it by adding his own peculiar brand of magic.

He's done it before, of course. *Lords of Midnight* demolished most people's preconceptions of strategy and adventure overnight by introducing 'landscaping' and the ability to control lots of different characters within a game. In *Doomdark's Revenge* he sharpened his own formula, bringing out a game of stunning complexity. Recently, with *Dark Sceptre*, he gave the Spectrum large-scale sprites and solved the character attribute problem at the same time with the simple but ingenious method of giving each sprite a black outline.

One of Mike's latest creations could be his greatest, though - and it's not even a game. It's his own company, Maelstrom Games Ltd, and together with partners

Malcolm Hellon and Hugh Batterbury, he's preparing for some even bigger hits in the months to come.

## TOWARDS 16 BITS

'Games are becoming more and more complex,' said Mike after we'd finished goggling at *Whirligig*. It's no longer one man and his computer doing all the work, you need a whole team - which is why I wanted to set up Maelstrom.' So now gathered in a small house in Wallasey near Liverpool are seven programmers who together take care of coding, graphics, and music. You get some idea of the expertise when Mike, who is no second-rate programmer himself, says that his real job is in design. 'I feel that's where I'm

best employed, because there are already a lot of good programmers around.'

Certainly both the games under development, *Whirligig* and *Grimblood*, show the benefits of this approach. Mike and Malcolm toss ideas around ('We argue about it for weeks') and then both can work on the project sharpening the design and at the same time advising the programmers. Many other software development houses work to game designs produced by non-programmers, which often leads to confusion at the coding stage, but there are no such problems at Maelstrom.

The 16-bit revolution is something Mike has strong views about. 'First,' he says, 'you've got to do a lot more on the machines.

## Getting the ideas together



Mike Singleton and partner Malcolm Hellon, pulling together on a new game idea...

**Malcolm:** I come up with an idea, and Michael comes up with an idea...

**Mike:** ...and then we argue about it for weeks. We bounce an awful lot of stuff around here.

**Malcolm:** You're trying to pin-point that special 'something' that all good games have. All of the really successful games have got a special property, which boils down to imagination.

**Mike:** Looking at things from a completely new angle.

**Malcolm:** Yes, I'm thinking particularly of *Ant Attack* and *Sentinel* - they were both really strange games...

While this elevated discussion was going on, the two maestros were staring at...a version of *Life* on the ST! 'I could sit and watch this for hours,' said Mike, who's reprogrammed numerous versions of the old classic, using colour planes and new rules to generate mesmerising displays. Aha...so THIS is why *Star Trek* was so late!



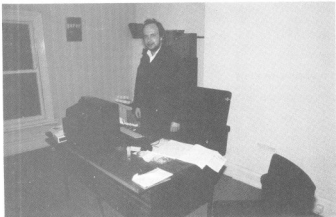
Mike likes to mess around with the Amiga chips 'Plant' (left) and 'Zoe' (in an ST non-mouse). Better - two of Maelstrom's up-and-coming coders. Here's drawing of an expanding Archimedes market - I did a simple BASIC program on the BBC Master and then

You won't find many companies in future putting out quality stuff for the ST and the Amiga at \$999. But to make up for that there's all the excitement of the new machines, there's no 'state-of-the-art' standard for 16-bit. No-one knows how far you can push the things.

What about the ST versus the Amiga? The Amiga's a pig to program – the operating system keeps trying to take over what you're doing. The ST on the other hand is a bit like a 16-bit Spectrum – it's just a bare machine with no funny bits, but with the Amiga you've got to set up this chip, set up that chip... Luckily Mike's programmers aren't quite so Struck by the Atari – Nick

Plant in particular really enjoys programming on the Amiga, so no Commodore owner need feel that their machine is getting a rough deal.

As it is, 8-bit Maelstrom games are still going to appear. 'We've got a lot of contracts for the 8-bit market,' says Mike, so Spectrum and Commodore owners aren't going to be left out in the cold, even though there are going to have to be a few compromises in some of the 8-bit versions. In Grimblood, for example, much of the animation has had to be left out on the 64, as well as some of the variety in the faces. Shouldn't affect the playability too much, though, so keep your fingers crossed. ●



Hugh Batterbury – Hugh has the unenviable task of making sure all the figures add up, not to mention his involvement with game design.

## So you want to be a programmer?

We reckon that ACE readers are on the top of the pile when it comes to talent and initiative, so Mike suggested that we let you all know that Maelstrom Games are looking for someone to join their programming team. You need to live within travelling distance of Wallasey and have some programming experience. Write in with a CV to 23a Seaview Road, Wallasey, Merseyside, L45 2QN.

For those of you who live outside that area, Mike has some sound advice if you're planning a career in games programming. 'Just get yourself a machine – whichever one you can afford – and start playing about with it,' he says, and Malcolm points out that '...if you can master BASIC then you can master a low-level language, assembler, or machine code.' So there's no need to worry overmuch about which language you work in, provided you can get reasonably proficient at it. So grab that manual and get coding – your country needs you!



David Olman and David Gaudrey, beavering away on Grimblood – you could be joining them if you've got the right credentials.

### Grimblood

First out of the memory banks could be Grimblood, scheduled for release later this year by Melbourne House. Maximus Snarl, 9th Earl of Grimblood, is having a spot of bother in the ancestral home. One of the inmates is knocking off the other guests and your job is to track down the assassin and put the finger on him, before he does the same to you.

Once again, it looks as if Mike's team is going to be able to put a whole new slant on an old game-idea. There are elements of Cluedo and Lords of Midnight as you move among the different locations in company with 24 other characters. Digitised faces glower at you from the screen, each with many different expressions that change according to mood. Mysterious rainbow-hued figures glide across the display as you ask questions and issue commands to other characters. Finally, you can make your accusation – but if you get it wrong you move a little higher up the assassin's list.

With so many digitised graphics (and digitised speech to boot), Grimblood has been pretty hungry on memory, which threatens a compromise on some of the 8-bit versions. Even here, however, the programmers have turned a disadvantage into a new game feature – 'We've

## ON THE BOIL...

got a compression system that squeezes the pictures by up to 10 times, but the best thing is that we can decompress to whatever scale we like in real-time. In practice, there are about 16,000 different scale sizes possible.' You can well believe it as you see the figures walking out of the screen towards you, growing in perspective as they move.

### Whirligig

From mediaeval murder mystery to 3D frantic shoot-em-up, Maelstrom really show their paces here. Whirligig's main asset is its speed and smoothness on-screen. The programming techniques allow very complex shapes to be presented on-screen in true 3D with the result that you get a geometric spacecape not unlike a screen from Driker, but very much faster.

Whirligig, although currently running on an ST, shows that the 8-bit market still has a hold on Singleton's programming habits. 'I first worked out the graphics routines on the Spectrum – in fact it was originally conceived as an 8-bit game, but it would obviously look so much better on a 16-bit machine.'

Speed isn't this game's only strong point. Although the gameplay is still being worked on, the graphics alone are enough to make you stop

and stare. Mike has managed to introduce a new element into 3D graphics that adds tremendously to the realism of the display... but... I'm not allowed to tell you what it is! Aaagh! The frustration! Ah well, guess I'll just have to stomp up that fiercer all, and tell you all about it next month...

### Delivery dates

Both Grimblood and Whirligig look like pretty strong chart contenders – but when will we see them? If there's one thing Mike's renowned for, it's missing deadlines. Fans of Star Trek will know that prompt delivery isn't exactly Mike's style, but he's very quick to defend himself: 'Yes, I've certainly got something to say about that – most of the games where poor old Mike Singleton has been singled out for missing deadlines have not been games where poor old Mike Singleton has been doing the programming. That was the trouble with Star Trek, for example – half the programming team just beamed off in the middle of the project. We just had to start off again with a fresh team.' The same thing happened, apparently, with Dark Sceptre. OK Mike, we'll let you off the hook... just this once.





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# ACE PINK PAGES

This month sees the introduction of a whole new regular section to the Pink Pages – Random Access – designed to baffle, perplex and entertain you. We've also updated and re-designed the hardware and software buyers' guides to make it even easier for you to find the vital information you'll need before making that expensive hardware or software purchase.

## ACE RECOMMENDED SOFTWARE

### ARCADE ADVENTURES

These games usually give the player a joystick controlled character with which to explore the huge game area.

#### AIRBALL

Microdeal ● Atari ST £24.95dk

Multi-coloured three dimensional arcade adventure that owes something to the Ultimate style but is years ahead in terms of graphic detail and presentation. You, as the airball in question, must negotiate corridors and rooms full of various obstacles – all spelling instant death. An outstanding rendition of a popular genre.

#### EAGLE'S NEST

Pandora ● Amiga £19.95dk ● Atari ST £19.95dk

This is one of the better Gauntlet clones, especially on the 16-bit machines. The military flavour of the arcade adventure adds atmosphere and if you like this particular style of game, you won't be disappointed with Eagle's Nest.

#### HEAD OVER HEELS

Ocean ● Spectrum £7.95cs ● C64

£8.95cs ● £12.95dk ● Amstrad £8.95cs ● £14.95dk ● MSX £8.95cs ● IBM PC £19.95dk

3D exploration reaches its peak with this huge intricate masterpiece. You play two characters – Head and Heels – as you search for the crowns that will free the galaxy. The puzzles can get very difficult indeed, and you'll often have to split Head and Heels up to use their different capabilities. The game's 300 locations are wittily drawn, and the animation is excellent throughout. A real classic.

#### MAGIC KNIGHT TRILOGY

Mastertronic ● Knight tyme Spectrum £2.99 cs Amstrad £2.99cs ● Spellbound Spectrum £2.99 cs Amstrad £2.99 cs C64 £2.99 cs ● Stormbringer Spectrum £2.99 cs Amstrad £2.99 cs

This trilogy is a series of menu-driven arcade adventures which, as well as all the expected running and jumping, have

a complex system of interaction between characters. In Spellbound you must rescue Gimbal the Wizard from the fearsome Castle of Karn; in Knight Tyme you have to find a way back in time after being catapulted into the 25th century, while in Stormbringer, the final part, we

find that the magic knight has been split in two, one part good, the other evil. You can't kill yourself, so the only solution is to merge the two halves. But how? Lots of action, plenty of thought and good graphics make all three winners.

### STRATEGY GAMES

The games for megalomaniacs. The games listed in this section will really test your mettle on the battlefield.

#### BALANCE OF POWER

Mindscape/Mirrosoft ● Amiga £26.95dk ● Atari ST £26.95dk ● IBM PC £26.95dk ● Mac £26.95dk

Definitive strategy game for 16-biters. The player takes the role of one of the superpowers, while either the computer or a friend takes the other. Then it's a case of trying to win friends and influence people on a global scale. This can be achieved in a number of ways, including supplying arms or financial aid to radical

factions in the hope of toppling a government which is not receptive to the great American or Russian dream (depending on which side you're playing). It's complex, involving and it's difficult to play in ten minute sessions. Absorbing stuff that gives an insight into the devious world of geopolitics.

#### DIPLOMACY

Leisure ● Genius ● C64 £12.95cs ● £14.95dk ● PC £24.95dk

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## Acari ST Software Arcade/Adventure/Strategy

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boardgames finally made it onto home computer and how! The game can handle up to seven players and it's an engrossing and madly addictive game that's a must for micro megalomaniacs.

## UMS

Rainbird • Atari ST £24.95cd • IBM PC £24.95cd • Macintosh £34.95cd • Amiga £24.95cd

Rainbird's Universal Military Simulator is designed to simulate a conflict between two forces on a user-definable terrain that can be viewed in three-dimensions from any one of eight directions. The program heralds a new era in 16-bit computer

wargaming. The ST version is available now with the other versions following shortly.

## VULCAN

CCS • Spectrum £9.95cs • Amstrad £9.95cs

An elegant, simple and ingenious wargame, Vulcan covers the Tunisian campaign of 1942-43. A huge playing area and air attack phase make the game an improvement over the same author's earlier works *Amhem* and *Desert Rats*. Vulcan is fast, efficient and simple to play, and no self-respecting wargamer should be without it.

## SIMULATIONS

Games that put you at the controls. Whether you're flying helicopters or aeroplanes, or steering bobsleighs, simulation games can become very involving.

## BOBSLEIGH

Digital Integration • Spectrum £9.95cs • Amstrad £9.95cs £14.95cd

Bobsleigh is a thrilling game with enough strategy involved to add another dimension to a highly competent and addictive simulation. Have you got the stamina to win your way into one of the top three positions by the end of the season? Remember, sponsors don't back losers. Unfortunately, though Bobsleigh is available for the C64, it's a poor game compared to the Amstrad and Spectrum versions and is therefore not recommended.



## CHUCK YEAGER'S ADVANCED FLIGHT TRAINER

Electronic Arts • C64 £9.95cs £16.95cd • PC £24.95cd

Chuck Yeager's flight trainer takes the flight simulator genre a step further by including a training option. Chuck will guide the novice through such difficult manoeuvres as aileron loops and rolls. With so much in one package it will take many hours of instructive fun to master all the available options.

## FLIGHT SIMULATOR 2

Sub-Logic • Atari ST £49.95cd • Amiga £49.95cd • IBM PC £49.95cd

The venerable godfather of flight simulations, Flight Sim II is the standard by which all others are judged. Although it spent a zillion weeks on top of the US charts, it's difficult to get hold of in the UK. If you have the technology, this is an essential purchase.

## GUNSHIP

Microprose • PC £34.95cd

Excellent graphics, involving simulation and a variety of missions make this one of the better PC games. Plotting your 'topper around in order to zap various gooks may not be terribly taxing – but if you can stand the politics you should have a lot of fun.

## LEADERBOARD

Access/US Gold • Spectrum £8.99 • C64 £9.95cs £14.95cd • Amstrad £9.95cs £14.95cd • Atari ST £19.95cd

If you only buy one golf simulation for your collection, make sure it's Leaderboard. It's head and shoulders above everything else on the playability and realism stakes, easy to get into, with delightful graphics and some wicked courses. Once you've mastered the courses on the original version, tackle Tournament, Leaderboard and then World Class Leaderboard (based on real courses, including St Andrews, and also containing the Gauntlet Country Club, a course devised by Access to be as difficult as possible).

## TOMAHAWK

Digital Integration • Spectrum £9.95cs • Amstrad £9.95cs £14.95cd • Atari ST £24.95cd

One of the all-time great flight simulations, Tomahawk also has a strong combat edge to it. Flying a US Army Apache helicopter is a complex business, and the game's realistic controls make no concessions for learner pilots. Choose one of the three combat missions and you can fly out to attack ground targets, while keeping a weather eye open for enemy aircraft. Landscape, buildings and vehicles are all drawn in crisp vector graphics.

## PUZZLES

If you're after a game that will provide you with a real challenge, without necessarily requiring large doses of strategic thinking, then it's a puzzle game you want.

## BONECRUNCHER

Superior Software • C64 £9.95cs £11.95cd

At first sight this recent release may appear to be nothing more than a Boulderdash rip-off. However there are a number of highly innovative gameplay features which give Bonecruncher a feel all of its own. Highly recommended for those who prefer to solve problems rather than shoot them.

## BOULDERDASH

Prism Leisure Corporation • Spectrum £2.99cs • C64 £2.99cs • Amstrad £2.99cs

A game that has everything – instant action, long-term challenge, frenetic excitement as the clock ticks down and extremely tricky puzzles. You must collect jewels hidden in caverns, digging away earth and boulders to get at them. Boulders can drop and cause you serious damage, while the jewels are often hidden by seemingly impenetrable walls. Complex, but great fun. Boulderdash is a classic you can't afford to miss in its budget incarnation.



## DEFLEKTOR

Griffin/Vortex • Spectrum £7.99cs • C64 £9.95cs £14.95cd • Atari ST £19.95cd

Optics are the order of the day here (not the spirit dispensers) as the player tries to connect a laser beam to a receiver and at the same time destroy a number of ovals that are on-screen as well. You'll need to make full use of the mirrors, fibre-optic conduits and polarising and refracting blocks if you're to achieve your aim. Clear the first screen and you'll only have \$9 more to do. Fascinating stuff that's horribly addictive.

## NEBULUS

Hewson • C64 £8.95cs £12.95cd • Spectrum £7.95cs

Guide pogo to the top of eight towers using the spiral of platforms, lts and ledges that form the route. It's a highly

original game game that strikes a fine balance between frustration and addiction, added to which is the rotary scroll, thus making it a good looking, playable winner of a game.

## SENTINEL

Firebird • Spectrum £9.95cs • C64 £9.95cs £14.95cd • Amstrad £9.95cs £14.95cd • Atari ST £19.95cd

Bizarre and compelling strategy game played over the chequered surface of a planet dominated by the Sentinel. Fundamentally you have to absorb energy while trying to stop the Sentinel from absorbing yours. A clear brain and fast trigger finger are both necessary in this very original and large – 10,000 possible landscapes – game.

## SKULLDIGGERY

Nexus • Atari ST £19.95

Boulderdash clone that completely outdoes the original on this particular machine. Again (see Boulderdash above) you're digging for diamonds in caverns over 100 different screens – with a time limit for each screen. Skulldigger scores on playability (easier screens to begin with and a choice of starting point) and its entertaining two-player option.

## SPORE

Bulldog • C64 £1.99cs • Amstrad £1.99cs • Spectrum £1.99cs

The winning combination of strategy, frenzied blasting and great graphics make Spore a worthy full-price release – what a bargain then to be able to pick it up for £1.99!

## TETRIS

Microsoft • Spectrum £8.99cs £19.95cd • C64 £8.95cs £12.95cd • Amstrad £8.95cs £12.95cd • Atari ST £19.95cd • Amiga £19.95cd • IBM PC £19.95cd

A fascinating geometrical oddity, this Russian puzzler turns the obscure mathematical point of packing into a cult game. One at a time, shapes fall downwards into a rectangular playing area. Left to their own devices they'll pile up until they reach the top of the screen: your task is to guide them down and pack them in tightly so that doesn't happen. Different versions have proved to be rather variable in their arcade aspects, but the brilliantly simple idea behind them means they're well worth a look whatever your machine.

## THINK!

Firebird • Spectrum £1.99cs • C64 £1.99cs • Amstrad £1.99cs

Originally released by Analsoft at full price, but now available for a fraction of that from Firebird. It's a horribly addictive game played on a 6x6 grid – either one







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Conversion from Arkanoid the coin-op, in its turn the best version of the classic Breakout. Simple in concept, the player controls a bat at the base of the screen, whizzing it left and right. The object is to keep a small ball in play, bouncing it off the bat to destroy formations of bricks in the top half of the screen. Eliminate all the bricks and move on to the next of 33 screens. Extra features contribute

to the addictiveness. As a faithful coin-op conversion, Arkanoid comes out top, but for a different start on the same theme and some nifty music, try ASL's Impact, which also builds the difficulty levels more gradually.

### BOUNDER

Gremir Graphics • Spectrum £7.95c • C64 £9.95c £12.95c • Amstrad £8.95c £13.95c •

A great arcade bounce-em-up, and very addictive too. You guide a ball as it bounces from one platform to another, high above the vertically scrolling landscape. Land on marked squares and you can stay aloft longer or gain a mystery bonus. Fill in a gap or hit one of the game's many nasties, however, and you'll lose a life. Bonus bouncing sections at the end of each level help vary the pace, and those tough gaps really keep you coming back for more. Bright, witty graphics, great music - and it's so playable.

### BUBBLE BOBBLE

Firebird • Spectrum £7.95c • C64 £8.95c £12.95c • Amstrad £8.95c

£14.95c • Atari ST £19.95c

Playability is the essence of this two-player coin-op conversion. You and a friend play bubble-blowing dinosaurs, travelling through 100 maze-and-platform screens, fighting off the 'bullies' by encapsulating them in your bubbles to turn them into juicy fruit. More firepower and various bonuses await as you reach the more difficult later screens. Enormously good fun, a little on the cutesy side. Can also be played as one player against the computer.

### BUGGY BOY

Elite • C64 £9.95c £14.95c • Amstrad £8.95c £14.95c

A non-stop action driving game that will keep even the most ardent Out Run fans busy for a long while. Collect the time bonuses in the attempt to complete the five grueling courses. Instantly playable and highly addictive, Buggy Boy should be on any racing fan's shopping list.

### COSMIC CAUSEWAY

Gremir • £9.95c £14.95c

The follow-up to the very popular bouncing ball game Trailblazer. The 24 stages of the scrolling landscape race toward you at breakneck speed as you try to guide your ball through the multitude of obstacles. Less technically demanding than Trailblazer but much more fun and with tremendous variety.

### EXOLON

Hewson • Spectrum £7.95c • C64 £8.95c £12.95c • Amstrad £8.95c £14.95c

Graphically superbly horizontally scrolling shoot-em-up in which you run, duck and jump your way along a planet's surface blasting away at alien defences. A gun and a missile launcher are used to blast the foes, but if things are still too tough then you can grab an exoskeleton for extra protection and fire power.

### HIGHWAY ENCOUNTER

Vortex (available on The Best of 3D compilation from US Gold) • Spectrum £8.95c • Amstrad £8.95c

Each game in this compilation is an excellent example of Vortex's 3D animation and tough gameplay. But Highway Encounter stands out in both departments, as you plot your route along said highway fighting off threats from a mutant life of dusts.

### PITSTOP 2

Epyx/US Gold • Available only on Epyx Epyx compilation • C64 £9.95c £14.95c • IBM PC £29.95c (in compilation with Writter Games and Summer Games 2)

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StarGLider is a shoot-em-up coin strategy game boasting vector graphics at their very best. The screen is essentially your view from the cockpit, your objective is to destroy the 'starglider', flagship of the Egon forces who have invaded your homeland Novenia. Standard issue scenario, but an outstanding game.

### SUMMER GAMES

Epyx/US Gold • C64 £9.95c • £14.95c  
• Atari XE £14.95c (Summer Games 1 only) • IBM PC £29.95c

Epyx sporting simulations are of high quality but none have quite captured the playability and style of the original Summer Games and its immediate successor, Summer Games 2. One to six players can take part in high jump, gymnastics, springboard diving, clay pigeon shooting, swimming, pole vault – and others – with lovely large graphics and smooth animation throughout. Control of your athlete can be complex so practice is recommended.

### SUPER SPRINT

Electric dreams • C64 £9.95c • £14.95c  
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One of the better coin-op conversions currently available. With up to three players all competing at once, the action is fast and furious and it will take a finely-tuned car to complete some of the more tortuous circuits that appear later in the game.

### THRUST

Firebird • Spectrum £1.99c • C64 £1.99c • Amstrad £1.99c

Temporarily sensitive controls and a large helping of real-life physics make this budget title an absolute must. Flying down through the caverns of an enemy-held planet, you have to pick up fuel and destroy hostile gun turrets without crashing into the tunnel walls. Tough enough as it is, but then you've got to make the return journey with a heavy load slung

under your craft. Very mean, very addictive.



### THUNDERCATS

Elite • C64 £9.95c • £14.95c • Spectrum £7.95c • Amstrad £9.95c • £14.95c

The game based on the hit TV series/comic/plastic toy. It's a side-on view scroller that just oozes gameplay. Each of the game's 14 levels is a straight line dash from start to finish with a multitude of obstacles to avoid along the way. Graphically impressive and compulsively playable too.

### URIDIUM

Hewson • Spectrum £8.95c • C64 £9.95c • £12.95c • BBC £9.95c • £19.95c

The piece de resistance of scrolling shoot-em-ups, blast the dreadnought and attacking ships while dodging among large structures. Great metallic-looking dreadnoughts and the smoothest scrolling you'll ever see put this head and shoulders above the opposition. A game not to be missed, especially now that C64 versions come packaged with the excellent Paradox.

### ZARCH

Superior Software • Archimedes £19.95c • Amiga and Atari ST versions under development.

ACE's highest rated game to date. A solid three dimensional shoot-em-up with such graphic perfection and timelessly addictive gameplay that it became an instant classic. Zarch could do for the Archimedes what the juggler did for the Amiga.

## ADVENTURES

Adventure games require text input from the player and give a text response in return. There are many sub-categories, involving icon-control, graphic depiction of locations, and even speech output.

### THE BARD'S TALE

Electronic Arts • C64 £14.95c • Amiga £24.95c • Atari ST £24.95c • IBM PC £24.95c

Build a party of up to six adventurers and sail forth through the city in search of treasure, combat, and fame. Your character develops in experience during play and the task involved is pretty immense –

don't expect to finish it inside a month or two.

### BEYOND ZORK

Infocom/Activision • C64 £19.99c • Amiga £24.99c • IBM PC £24.99c • Atari ST £24.99c

Infocom's attempt to muscle in on the role-playing market is a great success.



## SPECIALS

Original works that are simply unclassifiable feature in this section.

### ATF

Digital Integration ● C64 £8.95cs  
£12.95cs ● Spectrum £8.95cs £12.95cs  
● Amstrad £8.95cs £13.95cs

Excellent combat/light sim. See elsewhere in this issue for full review.

### DRILLER

Incentive ● C64 £14.95cs £17.95cs ●  
Spectrum £14.95cs £17.95cs ●  
Amstrad £14.95cs £17.95cs

This three-dimensional masterpiece of exploration and adventure took a year to develop, but the wait was worth it. A whole world was crammed into 8-bit micros to give the player such a feeling of 'being there' it's uncanny. It's bold, dazzlingly original and very playable. A milestone in computer entertainment.

### ELITE

Firebird ● Spectrum £14.95cs ● C64 £14.95cs £17.95cs ● Amstrad £12.95cs £14.95cs ● BBC £12.95cs £14.95cs  
(available from Superior Software)

Still the best space trading game, Elite set a standard for other companies to follow. One of the first space games to use vector graphics, it's a shooting and trading effort set across several galaxies, with plenty of variety to the gameplay. You can trade legal goods (relatively) safe systems, or run the gauntlet of pirates in the galaxies' deeper spaces with your hold full of contraband. Either way there's a nice line in zero-G dogfighting, and as big a task as you'll find anywhere.

### MATCH DAY 2

Ocean ● Spectrum £7.95cs £14.95cs ●  
C64 £8.95cs £12.95cs ● Amstrad £8.95cs £14.95cs

Definitely the football game on micro, magnificent animation, great gameplay, vicious and skilful computer opponents. Various improvements over the original make this a must for all computer football fans.

### QUEDEX

Thelamus I C64 £9.95cs £14.95cs

In this impressively challenging game you must steer a metallic ball through ten

different screens of mazes, bonuses and obstacles, all within a set time limit. This simple game concept has a host of added features to make it particularly pleasing: you can carry over unused time to the next screen, for example, and tackle the different screens or 'planes' in any order you wish. Excellent graphics and play utterly absorbing play.

### SPINDIZZY

Electric Dreams ● Spectrum £9.95cs ●  
C64 £9.95cs £14.95cs ● Amstrad £9.95cs £14.95cs

Tremendous stuff; steer your spinning top over tough obstacles and collect jewels, against a fendish time limit. The game landscape is a vast system of catwalks, ramps, towers, and trampolines surrounded by lethal drops – and NO safety rails. Floor switches activate lifts and bridge gaps, but tripping them in the right order can be harder than it looks. A few bad guys and a lot of nice touches, but the exploration's the thing.

### TAU CETI/ACADEMY

CRI ● Spectrum £9.95cs ● C64 £9.95cs £14.95cs ● Amstrad £9.95cs £14.95cs  
● Atari ST £19.95cs ● Amiga £19.95cs

Flight simulator/shoot-em-up and its sequel which are both incredibly smooth and well put together. The attention to detail is impeccable as you set off on hair-raising missions as a space cadet. In Academy you get to design your own space skimmer craft as well.

### WIZBALL

Ocean ● Spectrum £7.95cs ● Amstrad £8.95cs £12.95cs ● C64 £8.95cs £14.95cs

A compelling and original ball game in which you become the 'colour creatures' which are intent on eliminating the spectrum and rendering the landscape grey and drab. Controlling the wizball is great fun and makes this one of the most playable game to have appeared for a long time.

world with humour and imagination.

### JEWELS OF DARKNESS

Rainbird Level 9 ● C64 £14.95cs ●  
Spectrum £12.95cs ● Amstrad £14.95cs £19.95cs ● IBM PC £19.95cs  
● Amiga £19.95cs ● Atari ST £19.95cs  
● Macintosh £19.95cs

Level 9, Britain's oldest adventure programming family, have put together three of their classic releases, Colossal Adventure, Dungeon Adventure, and Adventure Quest on one disk. The games have been updated with graphics and larger vocabularies and are as close to the original spirit of adventuring that you're likely to find.

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**PRICES**

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|-------------------------|---------------|
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| Animator: Junior        | £32.00        |
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| Library Discs           | £14.00-£25.00 |
| Demo Video              | £25.00        |
| Butcher 2               | £27.00        |
| Upgrade                 | £18.00        |
| Discache + 1            | £22.00        |
| Design Math Acquisition | £58.00        |
| Fontboard Fonts         | each £13.00   |
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| 4                       | £3.00         |
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## HARDWARE BUYERS' GUIDE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IN BRIEF                                                                                                                                                                                                                                                         | GRAPHICS & SOUND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACORN ARCHIMEDES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                             |
| <b>Models:</b> Archimedes 305, 310 and 310M<br><b>Package:</b> Keyboard, mouse and drive, key-board, mouse, drive plus monitor (colour or mono), 310M - M denotes inclusion of PC emulator<br><b>Memory:</b> 305 512K; 310 1Mb<br><b>Processor:</b> Acorn ARM<br><b>Recommended Retail Price:</b> Ranges from £801.80 for 305 alone to £1188.00 for 310M with colour monitor                                                                                                                                                                                          | At the cutting edge of micro technology - thus not cheap. Nor does it have the software base of longer-standing machines. Very exciting, but best left to the real enthusiasts for now.                                                                          | <b>Resolution:</b> Either 320 x 256 or 640 x 256 or 640 x 512 (multi-synch monitor)<br><b>Palette:</b> 4096<br><b>Colours:</b> From mono up to 256 (320 x 256) or 16 (640 x 512)<br><b>TV:</b> No<br><b>Monitor output:</b> Mono - composite video, colour - RGB + sync<br><b>Monitor supplied:</b> Depends on package bought                                                                                                                                                                                                         | <b>Monitor Options:</b> Acorn dedicated, 14 inch medium res, colour; 12 inch high res mono<br><b>Sprites:</b> 1<br><b>Speed:</b> Very fast<br>***<br><b>Speaker quality:</b> Good<br><b>MIDI:</b> Yes<br><b>Stereo output:</b> Yes<br><b>Performance:</b> 16 channels (8 stereo pairs); 6 octaves, one internal loudspeaker |
| <b>AMSTRAD CPC</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                             |
| <b>Models:</b> CPC464, CPC664, CPC6128<br><b>Package:</b> Keyboard, monitor (mono or colour) plus built in tape/disk, plus software (usually 12 games), joystick. CPC664 is no longer manufactured but may be available on special offer from retailers in different packaging configurations.<br><b>Memory:</b> 464 664 64K; 6128 128K<br><b>Processor:</b> Zilog Z80<br><b>Recommended Retail Price:</b> 464 mono £199.99; 464 colour £299.99; 664 unavailable; 6128 mono £299.99; 6128 colour £399.99                                                              | The Amstrad CPC family is a value-for-money and versatile breed. You get everything you need and the whole business needs just one plug. They'll do sterling service as games machines, but they are also able to turn their hands to more serious matters.      | <b>Resolution:</b> Mode 1 320 x 200; Mode 2 640 x 200; Mode 0 160 x 200<br><b>Palette:</b> 27<br><b>Colours:</b> Mode 1 - 4; Mode 2 - 2; Mode 0 - 15<br><b>TV:</b> Yes<br><b>Monitor Output:</b> RGB + sync<br><b>Monitor Supplied:</b> Yes<br><b>Monitor Options:</b> Stick with Amstrad's own; need external power supply to use any independent models<br><b>Sprites:</b> None<br><b>Speed:</b> Acceptable, slow scrolling<br>***<br><b>Speaker Quality:</b> Adequate<br><b>MIDI:</b> No<br><b>Stereo Output:</b> Yes, needs cable | <b>Performance:</b> 3 channels. Has 8 octaves, but is basically as for the Spectrum +2 - does have stereo output, if a little rudimentary.                                                                                                                                                                                  |
| <b>AMSTRAD PCW</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                             |
| <b>Models:</b> PCW8256; PCW8512; PCW8512<br><b>Package:</b> 8256 - keyboard, monitor with built in single disk drive, dot matrix printer, Locoscript 1 word processing software, CPM operating system, CRI Logic; 8512 - as above but with two built-in drives; 8512 - restyled keyboard, monitor with single built-in disk drive, daisy wheel printer, Locoscript 2 word processing software.<br><b>Memory:</b> 8256 256K; 8512 512K; 8512 512K<br><b>Processor:</b> Zilog Z80<br><b>Recommended Retail Price:</b> PCW8256 £343.85; PCW8512 £458.95; PCW8512 £373.85 | The PCW range was designed as a word processing machine rather than a general purpose computer. Non-word processing software was produced after sales rocketed; not recommended as a games machine.                                                              | <b>Resolution:</b> 720 x 256<br><b>Palette:</b> 8256, 8512 green and black; 8512 black and white<br><b>Colours:</b> N/A<br><b>TV:</b> No<br><b>Monitor Output:</b> No<br><b>Monitor Supplied:</b> Monochrome only, giving 80 column text display<br><b>Monitor Options:</b> No<br><b>Sprites:</b> No<br><b>Speed:</b> Not very fast<br>***<br><b>Speaker Quality:</b> N/A<br><b>MIDI:</b> Add-ons available<br><b>Stereo Output:</b> No                                                                                               | <b>Performance:</b> Beeps only. Some third party sound enhancement modules available                                                                                                                                                                                                                                        |
| <b>APPLE MACINTOSH</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                             |
| <b>Models:</b> Macintosh SE, Macintosh II<br><b>Package:</b> Monitor with built in CPU and disk drive, separate keyboard<br><b>Memory:</b> 1Mb<br><b>Processor:</b> SE Motorola 68000; II Motorola 68020<br><b>Recommended Retail Price:</b> SE £2,294.25 upwards; II £4,329.75 upwards                                                                                                                                                                                                                                                                               | A very expensive up-market machine for those keen on desk-top publishing, wimp systems and up-market software. Software is very expensive. Games are mostly limited to icon-driven adventures. Good for MIDI musicians, but be prepared to pay through the nose. | <b>Resolution:</b> SE 512 x 342; II 1027 x 760<br><b>Palette:</b> SE black and white; II with colour monitor - 16 million<br><b>Colours:</b> With colour monitor - 16 to 256<br><b>TV:</b> No<br><b>Monitor Output:</b> Integral monitor<br><b>Monitor Supplied:</b> Built in<br><b>Monitor Options:</b> SE - use dedicated model only; II Apple II-res monochrome or AppleCol or II-res RGB<br><b>Sprites:</b> None<br><b>Speed:</b> Reasonably fast                                                                                 | ***<br><b>Speaker Quality:</b> Good<br><b>MIDI:</b> Third party interfaces available<br><b>Stereo Output:</b> SE, no; II, yes<br><b>Performance:</b> 4 channels. Performance good                                                                                                                                           |
| <b>ATARI ST</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                             |
| <b>Models:</b> Atari 520STFM; 1040STF; Mega STs<br><b>Package:</b> 520STFM and 1040STF keyboard with built in disk drive<br><b>Memory:</b> 520STFM 512K; 1040STF 1Mb; Mega ST 2 or 4Mb<br><b>Processor:</b> Motorola 68020<br><b>Recommended Retail Price:</b> 520STFM £299.99; 1040STF £499.99                                                                                                                                                                                                                                                                       | Excellent as a general purpose home machine for games, small businesses, and productivity - it's the number one choice for MIDI musicians. The ST's price could still give it the edge for artists over the Amiga.                                               | <b>Resolution:</b> High res 640 x 400; medium res 640 x 320; low res 320 x 200<br><b>Palette:</b> 512<br><b>Colours:</b> Monochrome in high res, 4 colours in medium res, 16 in low res<br><b>TV:</b> 520STFM yes, other models via TV modulator<br><b>Monitor Output:</b> RGB/Monochrome<br><b>Monitor Supplied:</b> No<br><b>Monitor Options:</b> Atari monitors; SM134 high res mono; SC1224 med res colour<br><b>Sprites:</b> None<br><b>Speed:</b> High resolution is only available on mono                                     | monitors; medium and low resolutions are only available on colour monitors or TVs<br>***<br><b>Speaker Quality:</b> Good<br><b>MIDI:</b> Yes<br><b>Stereo Output:</b> No<br><b>Performance:</b> Three channels; 8 octaves, envelope shaping                                                                                 |

# BUYERS' GUIDE

## HARDWARE &amp; SOFTWARE

## BUYLINES

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Disk Format:</b> 3.5 inch; 800K formatted; built-in drive</p> <p><b>Disk Price:</b> Around £3.00</p> <p><b>Disk Performance:</b> Good and fast</p> <p><b>Keyboard:</b> 103 keys; programmable auto-repeat rate. Keyboard has surprisingly cheap feel given quality of machine</p> <p><b>Joystick/Mouse:</b> 3 button mouse supplied; joystick not supported</p> <p><b>Ports:</b> RS-423 serial; Centronics compatible</p>                                                                                                                                                                                                                                                                                                                          | <p>parallel; 9-pin mouse socket; 3.5-inch drives; 640x480; 41912 expansion port; IEC 320 video output; I/O interface (BBC compatible)</p> <p>***</p> <p><b>Existing Software Base:</b> One game (Zarch); couple of databases (from Minerva Systems); all packages under development</p> <p><b>Current Releases:</b> See above</p> <p><b>Games:</b> One arcade title (ACE Rated 978) and</p>                                                                                                                                                                                                             | <p>at least one more on the way. A couple of adventures under development</p> <p><b>Graphics:</b> Potential is enormous; currently a couple of packages in the pipeline</p> <p><b>Music:</b> Again, enormous potential. Very little activity so far, however</p> <p><b>Prospects:</b> Very good, but not necessarily for games market</p> <p><b>Software Loading:</b> Competent, no obvious drawbacks</p> | <p><b>Best buy price:</b> As RRP</p> <p><b>Second hand availability:</b> Not yet</p> <p><b>Maintenance:</b> One year's guarantee. Faulty machines - return to dealer</p>                                                                                                                                                                                                                                                                                                                              |
| <p><b>Disk Format:</b> 3in floppy; 180K formatted per side; 664 and 6128 drives built-in; 454 drive extra</p> <p><b>Disk Price:</b> About £3.00</p> <p><b>Disk Performance:</b> Reliable and quick</p> <p><b>Keyboard:</b> 74 raised plastic keys with tactile feedback. Separate cursor cluster and redefinable numeric keypad. Very usable for word processing etc.</p> <p><b>Joystick/Mouse:</b> Standard 9-pin D-type. Third party mouse devices are available.</p> <p><b>Ports:</b> CPC464 PCB edge connector - takes disk drive and RS232C interface. Centronics parallel; 6-pin DIN RGB with synch luminance; synch 3.5mm stereo socket; joystick, cassette port; CPC644/128 PCB edge connector - takes RS232C interface. Centronics parallel</p> | <p>printer, auto on disk socket, joystick, cassette port, RGB with synch luminance, synch 3.5mm stereo socket, expansion I/O, TV</p> <p>***</p> <p><b>Existing Software Base:</b> Good, even if not as large as Spectrum or C64</p> <p><b>Current Releases:</b> Reasonable; most major Spectrum and C64 titles are converted</p> <p><b>Games:</b> Good, but some converted titles run slower than the Spectrum or C64 originals</p> <p><b>Adventures:</b> OK, but Infocom considering withdrawing support for this format</p> <p><b>Graphics:</b> Good selection of titles</p>                          | <p><b>Music:</b> Reasonable number of titles, but poor in comparison with C64</p> <p><b>Prospects:</b> Uncertain. After initial interest, sales of CPC software have dwindled but there should still be a reasonable amount of games and utilities around</p> <p><b>Software Loading:</b> Tape loading is reasonably quick and reliable, disk loading fast and reliable</p>                               | <p><b>Best Buy Price:</b> Shop around for best package. You could try for a CPC644 for around £300, but these are becoming increasingly rare. If the extra memory of the 6128 is not important, the CPC644 can represent a bargain, if you can find one</p> <p><b>Second Hand Availability:</b> Very good. Often plenty on offer in classified ads sections of specialist magazines</p> <p><b>Maintenance:</b> One year's guarantee. Faulty machines return to dealer. IEC statutory rights only.</p> |
| <p><b>Disk Format:</b> 3in floppy; 180K formatted per side - 8512 drive B and 9512 720K formatted drives built-in</p> <p><b>Disk Price:</b> About £3.00</p> <p><b>Disk Performance:</b> Fast and reliable</p> <p><b>Add-on drives</b> have been produced to take 5.25in disks, so that standard ASCII files in CP/M format can be transferred to the PCW machines</p> <p><b>Keyboard:</b> Includes extra keys for word processing functions. Keyboard in 9512 a substantially improved version</p> <p><b>Joystick/Mouse:</b> Not supported. Joysticks and mice can be attached via a separately bought</p>                                                                                                                                               | <p>interface</p> <p><b>Ports:</b> One expansion port takes RS232C serial and Centronics Parallel interface; printer port for bundled printer</p> <p>***</p> <p><b>Existing Software Base:</b> Not wide but generally programs of good quality. Appeals to specialist niche type markets</p> <p><b>Current Releases:</b> Very few</p> <p><b>Games:</b> Arcade titles are very scarce and, of course, monochrome only. Adventures are slightly more numerous, but again the range is small. A number of Infocom titles available under CP/M, but outlook for future releases</p>                          | <p>uncertain</p> <p><b>Graphics:</b> Very low but some low-end CAD-type software available</p> <p><b>Music:</b> None - machines not configured as such</p> <p><b>Prospects:</b> Would be poor but for launch of 9512. Revival will depend on new machine's popularity</p> <p><b>Software Loading:</b> Fast and reliable</p>                                                                               | <p><b>Maintenance:</b> One year's guarantee. Faulty machines return to dealer</p> <p><b>Best Buy Price:</b> Not generally sold below RRP</p> <p><b>Second Hand Availability:</b> For 8550 and 9512 good. 9512 too new for second hand market as yet.</p>                                                                                                                                                                                                                                              |
| <p><b>Disk Format:</b> 3.5in; 800K formatted; drive built-in</p> <p><b>Disk Price:</b> Around £3.00</p> <p><b>Disk Performance:</b> Fast and reliable, but watch out for US software that hasn't been thoroughly tested</p> <p><b>Keyboard:</b> Supplied 81 keys including function keys and numeric keypad. Optional extra is the Apple Extended keyboard with 105 keys</p> <p><b>Joystick/Mouse:</b> Joystick not supported; high quality one-button mouse supplied with machine</p>                                                                                                                                                                                                                                                                   | <p><b>Ports:</b> SE - Apple Desktop Bus connector; 2 RS232C RS422 serial; External disk drive; 50-pin Euro DIN expansion slot SCSI - DB-25 connector; External audio amplifier; I - 2 RS232C RS422 serial DB-25 SCSI</p> <p>***</p> <p><b>Existing Software Base:</b> Wide range of software exists in virtually all fields except games</p> <p><b>Current Releases:</b> Adequate; largely of US origin and in the business or DTP field</p> <p><b>Games:</b> Very few arcade games, but adventures are more plentiful</p>                                                                              | <p><b>Graphics:</b> Lots of interesting software for those involved in DTP publishing</p> <p><b>Music:</b> Very well supported for MIDI software - but it's expensive stuff</p> <p><b>Prospects:</b> Excellent, especially in business and DTP</p> <p><b>Software Loading:</b> Quick and reliable</p>                                                                                                     | <p><b>Best Buy Price:</b> There isn't much of a discounted market in Macs; you generally have to pay the list price</p> <p><b>Second Hand Availability:</b> Reasonable, but not exactly cheap. Check small ads in specialist magazines</p> <p><b>Maintenance:</b> One year's guarantee. Apple offers AppleCare - insurance - you take out to cover cost of repairs after guarantee has lapsed</p>                                                                                                     |
| <p><b>Disk Format:</b> 3.5in; 360K formatted (0.5Mb drive); 720K (1Mb drive); drive built-in</p> <p><b>Disk Price:</b> Around £3.00</p> <p><b>Disk Performance:</b> Fast and reliable</p> <p><b>Keyboard:</b> 96 keys including 10 function keys</p> <p><b>Full travel keyboard with audible click</b></p> <p><b>Joystick/Mouse:</b> Joystick ports are standard. Two button mouse supplied with machine</p> <p><b>Ports:</b> MIDI out (5 pin DIN); MIDI in (5 pin DIN); Audio out; Audio in; RGB monitor; mono monitor; serial/modem port; second disk, hard disk, mouse/joystick, joystick, camcorder, TV</p> <p>***</p> <p><b>Existing Software Base:</b> On the low side by</p>                                                                      | <p>8 bit standards, but best-supported of the new machines</p> <p><b>Current Releases:</b> Most major software houses convert their output to ST now, and several smaller houses specialise in ST titles</p> <p><b>Games:</b> Range of arcade titles isn't bad. Adventures are rarer but generally of very good</p> <p><b>Graphics:</b> Impressive, with several first-rate packages on the market</p> <p><b>Music:</b> Excellent. Many companies producing sound editors, samplers, synths, etc</p> <p><b>Prospects:</b> Very bright. Could soon rival Spectrum and C64 for number of new releases</p> | <p><b>Software Loading:</b> A 360K disk can't hold a really large ST program, so two-disk titles are becoming increasingly common. The disk-changers these require can get tedious, especially where you've got to swap disks during play</p>                                                                                                                                                             | <p><b>Best Buy Price:</b> You won't get much under the RRP, but try for special bundles</p> <p><b>Second Hand Availability:</b> Yes, look in classified ads of magazines</p> <p><b>Maintenance:</b> One year's guarantee. Return to dealer if faulty</p>                                                                                                                                                                                                                                              |

## IN BRIEF

## GRAPHICS & SOUND

### COMMODORE 64/128

**Models:** C64, 128, 1280  
**Package:** C64 and 128 keyboard plus C2N tape recorder, often plus accessories. C1280 keyboard plus system board/disk drive.  
**Memory:** C64 64K; C128 128K; C1280 128K  
**Processor:** C64 6502; C128 6502 plus 280 for use in CPM mode.  
**Recommended Retail Price:** C64 £159.99 - £179.99 according to package; C128 £199.99 stand alone; C229.99 with C2N; C249.99 with C2N plus software; C1280 £399.99

The 64 is an excellent games machine. The 128 and 1280 can be configured for business use using the CPM standard and giving access to a vast range of business and utility software. The 64 is a particularly difficult machine to learn programming on due to outdated BASIC.

**Resolution:** C64 320 x 200; C128 1280 - as 64 in 64 mode, plus 640 x 200 in 128 mode (8000 display).  
**Palette:** 16  
**Colours:** 8. Note - Attribute system places minor limitations on use of colours.  
**TV:** Yes  
**Monitor Output:** 64 - composite video; 128/1280 - RGB for 80 column display  
**Monitor Supplied:** No  
**Monitor Options:** C1903M £119.99 mono; C1901 £249.99 colour; C1084 £349.99 colour.

or suitable RGB comp monitor  
**Speakers:** 3  
**Speed:** Good for scrolling and sprites, poor otherwise  
**Speaker quality:** Output through monitor  
**MIDI:** Many third party interfaces available  
**Stereo Output:** No  
**Performance:** 3 channels. Very sophisticated for the price. The Commodore 64 used to be the most popular budget music computer for both MIDI and programming its on-board chip.

### COMMODORE AMIGA

**Models:** Amiga 500; A1000; A2000  
**Package:** Keyboard with built in disk drive. A1000 is discontinued; so packaging will depend on different dealer policies.  
**Memory:** A500 512K; A1000 256K; A2000 1024K  
**Processor:** Motorola 68000  
**Recommended Retail Price:** A500 £499.99; A1000 none - discontinued; A2000 £1236.25

Stunning specification, with custom chips giving enormous graphic power. Despite initial uncertainty, software support now seems assured. Although overtaken by the ST in the UK to date, overseas sales (particularly in US) are high. An excellent machine for those who can afford one.

**Resolution:** From 320 x 200 to 640 x 400  
**Palette:** 4096 colours  
**Colours:** 16, 32 or even 4096  
**TV:** Modular infra  
**Monitor Output:** SCART  
**Monitor Supplied:** No  
**Monitor Options:** Commodore A1081 at £349.99  
**Speakers:** 8

**Speed:** Very fast with right software  
**Speaker Quality:** Commodore custom chip MIDI: Not built in. Third party interfaces available  
**Stereo Output:** Yes  
**Performance:** 4 channels. Built in text to speech synthesis. 5 octave range; very sophisticated indeed.

### IBM & COMPATIBLES

**Model:** IBM's PC is the original. The many clones include Amstrad's PC1512 and 1640 series, Tandy's 1000EX, Spectrum (Bordwell 32 etc). The specifications here apply to most compatibles, but check with dealers first.  
**Package:** Depends on manufacturer, eg Amstrad supply all machines with monitors. You can buy the bare bones or the works.  
**Memory:** Usually 512K-640K  
**Processor:** Intel 8086, 8088 or variants  
**Recommended Retail Price:** From around £400 for the cheaper basic clones to £1500 for machines with hard disk, colour monitor etc. IBM machines are quite a bit more expensive.

Superb value if you want an all-round machine, but the PC still betrays its business origins. Increasing number of games software releases, but few of these are of the coin-op class variety. Definitely not to be considered if entertainment is your first priority.

Graphics are not provided as standard on PCs, but nowadays most machines are sold with the necessary add-on boards already fitted. There are three main standards: CGA (the most common colour display), EGA (normally an upgrade but built in on some eg Amstrad PC1640) and Hercules (mono).  
**Resolution:** CGA (Colour Graphics Adapter) 640 x 480 low res; 640 x 200 medium res; EGA (Enhanced Graphics Adapter) - both CGA graphics modes plus 640 x 350 high resolution; Hercules 720 x 348  
**Palette:** CGA - two different colour schemes available in low res; EGA 64.

**Colours:** CGA - 4 in low res, mono in high res; EGA - 16  
**TV:** No  
**Monitor Output:** Normally RGB  
**Monitor Supplied:** With most packages  
**Monitor Options:** Any RGB should do the job  
**Speakers:** None  
**Speed:** Varies  
**Speaker Quality:** Generally poor  
**MIDI:** Third party interfaces available  
**Stereo Output:** No  
**Performance:** Not really a machine for the musician. Alan ST really rather more.

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| AMIGA                       | ATARI ST                      |
|-----------------------------|-------------------------------|
| Backlash £17.95             | Fight Simulator II £37.95     |
| Barbarian £19.95            | Mark Williams C £109.00       |
| Raiders £17.95              | Laserix C £75.95              |
| Mercenary £19.95            | Barbarian £19.95              |
| Garrison £24.95             | Test Drive £31.95             |
| Fairy Tale £19.95           | Terramex £17.95               |
| Goldminer £19.95            | Gomph £21.95                  |
| Test Drive £19.95           | Chessmaster 2000 £21.95       |
| Deluxe Paint II £63.00      | Football Manager £12.95       |
| Deluxe Video £63.00         | Omega Elite £21.95            |
| Xenon £17.95                | Grid Iron £19.95              |
| Defender of Crown £24.95    | Black Lamp £17.95             |
| XB35 £8.95                  | Enduro Racer £12.95           |
| Hunt for Red October £19.95 | Whirlal £12.95                |
| Terramex £17.95             | Perc Word Plus £63.95         |
| Time Bandits £17.95         | Perc Word Plus £19.95         |
| The Art of Chess £19.95     | Fast Basic (disc) £48.00      |
| Klaxxon II £8.95            | (ROM)                         |
| Deluxe Music Can Set £60.00 | Hunt for Red October £19.95   |
| Karion Grand Prix £8.95     | Crash Car £17.95              |
|                             | Music Construction Set £21.95 |

### HARDWARE

|                                 |         |
|---------------------------------|---------|
| Philips CM 8833                 | £360.00 |
| Philips CM 8852                 | £299.00 |
| Comura disk drive 1Mb           | £145.00 |
| Comura 3 1/4" disk drive (ST)   | £170.00 |
| Epson LX 800                    | £249.00 |
| NEPC 2200                       | £299.00 |
| Amstrad LQ 3500                 | £299.00 |
| Mouse Pit                       | £5.99   |
| Mouse Extension Lead (BM)       | £3.95   |
| Mouse / Joystick Extension (ST) | £5.95   |

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| TITLE                   | SPEC  | C64    | ST     | AMIGA  |
|-------------------------|-------|--------|--------|--------|
| Platoon                 | £7.90 | £7.90  | -      | -      |
| Out Run                 | £7.90 | £7.90  | -      | -      |
| Super Hang On           | £7.90 | £7.90  | -      | £11.85 |
| Tetris                  | £6.35 | £7.13  | -      | -      |
| Project Stealth         | -     | £11.85 | -      | -      |
| Rastan                  | £6.30 | £7.10  | -      | -      |
| Terramex                | £7.10 | £7.90  | £15.80 | £15.80 |
| 4th & Inches            | -     | £7.90  | -      | -      |
| Alternative World Games | £6.34 | £7.90  | -      | -      |
| Card Wars               | -     | £7.90  | £15.80 | £15.80 |
| Gyzyx                   | £6.30 | £7.10  | -      | -      |
| Hunt for Red October    | £7.90 | £7.90  | £15.80 | £15.80 |
| ATF                     | £7.10 | -      | -      | -      |
| Combat School           | £6.30 | £7.10  | -      | -      |
| Flying Shark            | £7.10 | £7.90  | -      | -      |
| Octapolis               | £7.90 | £7.90  | -      | -      |
| Xor                     | £6.30 | £7.90  | -      | -      |
| U.M.S.                  | -     | -      | £19.80 | £19.80 |
| Gauntlet 2              | £7.14 | £7.90  | -      | -      |
| Enduro Racer            | £7.90 | £7.90  | -      | -      |
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| Xenon                   | -     | -      | £15.80 | £15.80 |
| Black Lamp              | -     | -      | £15.80 | -      |
| Sitar Wars              | £6.30 | £7.10  | £15.80 | £15.80 |
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## HARDWARE &amp; SOFTWARE

## BUYLINES

**Two disk drives are commonly available – the C1541 and the more recent C1571**  
**Disk Format:** 5.25in; 1541 140K formatted; 1571 340K formatted; 1280 has built-in drive  
**Disk Price:** £1.00 (less in bulk)  
**Disk Performance:** Commodore 1541 drive is notoriously slow and noisy; 1571 makes substantial improvement  
**Keyboard:** Related plastic keys with audible tactile feedback, plus function keys. Cursor key arrangement very awkward  
**Joystick/Mouse:** Provision for two standard

joysticks. Mouse not supplied. Commodore 1250 mouse available, plus third party manufactured models  
**Ports:** 2 joystick, expansion, cassette, non-standard serial, composite video (C64) RGB (128 & 1280), TV. User port  
**\*\*\***  
**Existing Software Base:** Excellent. Only rivalled by the Spectrum  
**Current Releases:** Still pouring out  
**Games:** Arcade action second to none. Adventure – good selection

**Graphics:** Good selection. Quality of graphics means that programs can be reasonably sophisticated  
**Music:** Good wide range of sound editors, some samplers. Many MIDI utilities available  
**Software Loading:** Slow as always in cassette and disk loading not as fast as it should be due to slowness of dedicated drive. Most software produced with fast loader routines.

**Best Buy Price:** Old style C64s, dating back to before the redesign, can be picked up for around £130-£150. Otherwise, with Commodore's policy of letting the dealers devise their own bundles, pick the one you like best.  
**Second Hand Availability:** Good for all models. Check small ads in various mags.  
**Maintenance:** Under guarantee take machine back to dealer. Should get straight replacement within 30 days of purchase (at dealer's discretion). Ex-guarantee, use independent repair company.

**Disk Format:** 3.5in; 880K formatted; drive built-in  
**Disk Price:** Around £3.00  
**Disk Performance:** Noisy and surprisingly sluggish  
**Keyboard:** 34 keys, 10 function keys, numeric keypad, separate cursor cluster  
**Joystick/Mouse:** Mouse supplied as standard  
**Ports:** Two joystick/mouse. Audio output left

and right. Extra disk drive. Serial RS232, Cerebronic parallel, RGB video, Monochrome video. Expansion bus  
**\*\*\***  
**Existing Base:** Small in comparison to 8-bit machines  
**Current Releases:** Beginning to pick up  
**Games:** Arcade products not yet up to the capabilities of the machine. Few adventures

are available, but they are generally of good quality.  
**Graphics:** Quality and range outstanding  
**Music:** Potentially superb. Little MIDI support as yet.  
**Prospects:** Good, but A500 needs to establish a larger user-base before becoming a prime development machine.  
**Software Loading:** A noisy process

**Best Buy:** Not at present sold below RRP, although it can be worth checking various dealers for special packs.  
**Second Hand Availability:** Limited as yet.  
**Maintenance:** Within guarantee should be returned to the dealer.

**Disk Format:** Mostly 5.25in. Some very new models use 3.5in; almost always 360K formatted; drive built-in  
**Disk Price:** Well under £1.00 for 5.25in, around £2.00 for 3.5in  
**Disk Performance:** Reliable and pretty fast; hard disk, of course, are even faster  
**Keyboard:** All models use raised plastic keys with audible tactile feedback and include function keys and separate numeric keypads. A wide variety of third-party keyboards is available.  
**Joystick/Mouse:** Two different joystick standards exist, IBM (analogue) and Amstrad (Atari)

style – the name for games playing). Most games support either IBM or both, but Amstrads can now be adapted to use IBM joystick. Newer models (eg Amstrad) include mouse in package. Third party mice are available for mouseless PCs.  
**Ports:** Various. Expect Cerebronic parallel, RS232, expansion port with most machines – but some of these are optional.  
**\*\*\***  
**Existing Software Base:** Vast  
**Current Releases:** Still pouring out, with price levels dropping as well  
**Games:** Cheaper machines have meant that

more games are being released on the PC – both arcade and adventure. CGA graphics standard used to be predominant, but an increasing number of VGA games with superior graphics are appearing. PC only recently perceived as a machine with games potential  
**Graphics:** Many sophisticated packages for business presentation graphics, not too much for the artist  
**Music:** Far selection of MIDI packages and interfaces, though these tend to be expensive  
**Prospects:** Might divide as long as there are PCs on desks  
**Software Loading:** Good, fast, reliable

**Best Buy Price:** All in one packages – such as the Amstrad – represent good value, but if you know what you're doing even better bargains can be had from discount stores. If you don't know what you're doing go for a reputable brand.  
**Second Hand Availability:** PCs can often be picked up in auctions of computer and office goods, or through magazine adverts.  
**Maintenance:** Return to dealer if faulty, but a maintenance contract – often surprisingly cheap – can guarantee your peace of mind.

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| Amiga 500 including Defender of Crown, Starglider and deluxe paint ..... | £426.00 |
| Sega game console .....                                                  | £94.00  |
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## ENTERTAINMENT

|                     |          |        |
|---------------------|----------|--------|
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| Quantum Paint ..... | ST       | £17.95 |
| UMS .....           | ST       | £22.95 |
| Barbarian .....     | ST/AMIGA | £22.45 |
| Starglider .....    | ST/AMIGA | £22.45 |
| Terrorpods .....    | ST/AMIGA | £22.45 |
| Space Harrier ..... | SEGA     | £23.70 |
| Choplifter .....    | SEGA     | £18.95 |
| The Ninja .....     | SEGA     | £14.95 |
| Rampage .....       | ST/AMIGA | £24.45 |
| Test Drive .....    | ST/AMIGA | £24.45 |
| Out Run .....       | SEGA     | £23.70 |

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|                                                                                                                                                                                                                                                                                                                                             | IN BRIEF                                                                                                                                                                                                                                                                                                                                                                         | GRAPHICS & SOUND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SINCLAIR SPECTRUM</b>                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Models:</b> Plus (48K and 128K); Plus 2; Plus 3<br><b>Package:</b> Keyboard and built-in tape disk, plus joystick, selection of software.<br><b>Memory:</b> Plus - 48K or 128K; Plus 2 - 128K; Plus 3 - 128K<br><b>Processor:</b> Zilog Z80<br><b>Recommended Retail Price:</b> Plus - none, ship around; Plus 2 £139.00; Plus 3 £199.00 | The Spectrum is primarily a games machine and should be bought only as such. It is unsuitable for business use, with low memory capacity and only a 32 column screen display. For productivity (ie graphics and music type applications) use, it is not really sophisticated enough for serious projects. Utilities fair but serious users will want to upgrade before too long. | <b>Resolution:</b> 256 x 192<br><b>Palette:</b> 3<br><b>Colours:</b> 6. Only two colours can be used within any 8 x 8 pixel square. Limits graphics potential.<br><b>TV:</b> Yes<br><b>Monitor Output:</b> RGB<br><b>Monitor Supplied:</b> No<br><b>Monitor Options:</b> No dedicated Amstrad Sinclair monitor, but any RGB suitable<br><b>Sprites:</b> None<br><b>Speed:</b> Average to fast for 8-bit<br>***<br><b>Speaker Quality:</b> Plus - dreadful; Plus 2 and 3 - better<br><b>MIDI:</b> Plus 48K no; Plus 2/3/128K yes (non standard socket built-in)<br><b>Stereo Output:</b> No |
| <b>NINTENDO ENTERTAINMENT SYSTEM</b>                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Package:</b> Standard version - console, plus game controllers, plus 1 game (Super Mario Brothers); Deluxe version - console, game controller, light gun, ROB robot, 2 games<br><b>Recommended Retail Price:</b> Standard model £99; Deluxe model £199                                                                                   | Japanese software base not as good as Nintendo's, but what counts is how many titles reach UK. Mastertronic have given strong support to machine, so prospects are reasonable.                                                                                                                                                                                                   | <b>Resolution:</b> 256 x 240<br><b>Palette:</b> 52<br><b>Colours:</b> 16<br><b>TV:</b> Yes<br><b>Monitor options:</b> Not yet supported<br>***<br><b>Performance:</b> 3 channels. Includes speed synthesis                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>SEGA MASTER SYSTEM</b>                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Package:</b> Console using cartridge or smart card, plus light gun, game controller and 1 game (Hang On)<br><b>Recommended Retail Price:</b> £99                                                                                                                                                                                         | A reasonable buy if a console is what you want. Interesting, too, because we may see more add-ons from Japan that give it extra power. However, at the moment nearly all software is Japanese in origin and this is not to everyone's taste. It remains to be seen if it will receive any third party support.                                                                   | <b>Resolution:</b> 256 x 192<br><b>Palette:</b> 64<br><b>Colours:</b> 16<br><b>TV:</b> Yes<br><b>Monitor Options:</b> No<br>***<br><b>Performance:</b> 3 channels. Good sound effects on most games                                                                                                                                                                                                                                                                                                                                                                                        |

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| Spectrum 128 plus 2 .....                         | 129.00    |
| DMP 3160 (PC compatible printer) .....            | 199.00    |
| Used Spectrum 48K plus 3 month warranty .....     | 60.00     |
| Citizen 12D printer .....                         | 199.00    |
| Joysticks .....                                   | from 6.95 |
| 501 1meg expansion kit (Amiga) .....              | 120.00    |
| Also + Philips 8833 monitor .....                 | 659.00    |

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### Repairs

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| Spectrum .....                           | 18.00 |
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| Acorn Electron non ULA Faults .....      | 25.00 |
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| HARDWARE & SOFTWARE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | BUYLINES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Disks for Plus 3 only</b><br/> <b>Disk Format:</b> 3in floppy, 180K formatted per side; drive built in<br/> <b>Disk Price:</b> Around £3.00<br/> <b>Disk Performance:</b> Generally fast and reliable. Some hiccups unless compatibility problems may arise with commercial software – but they haven't surfaced yet.<br/> <b>Keyboard:</b> The Spectrum Plus keyboards are made of hard plastic set into the casing, with a squiggle feel. The Plus 2+3 keyboard also has raised hard plastic keys. Unlike the older model, it can be used more easily for word processing.<br/> <b>Joystick/Mouse:</b> Non-standard on all models. Suitable interfaces widely available. Compatible joystick included in Plus 2 and 3 packaging. Third party mice available but mouse compati-</p> | <p>ble software rare.<br/> <b>Ports:</b> 2 joystick, RS232C/MIDI, RGB monitor, Audio, Numeric keypad, Expansion I/O, TV<br/> <b>***</b><br/> <b>Existing Software Base:</b> Second to none<br/> <b>Current Releases:</b> Most major software firms are continuing to bring out the majority of their titles on the Spectrum.<br/> <b>Games:</b> A huge number of arcade titles ranging from abysmal to excellent. Wide range of adventures, many Quilled.<br/> <b>Graphics:</b> Fair selection, some of which square better graphics performance from the machine than one would expect from the specification.<br/> <b>Music:</b> A couple of MIDI interfaces available, plus Chetwin Spectrum drum synth.</p> | <p><b>Software Loading:</b> Cassette versions slow as ever<br/> <b>Best Buy Price:</b> Plus can now be picked up cheaply as no longer manufactured. Try to find a shop selling off old stock at around £50.<br/> <b>Second Hand Availability:</b> Good. N.B. The original Sinclair 48K model can still be found second hand. If you don't mind the rubbery keyboard it could represent a good investment. Ensure that you get the 48K model – there is no outward way of distinguishing it from the 18K models, which are quite useless for running contemporary software.<br/> <b>Maintenance:</b> Amstrad-badged Spectrums have a year's guarantee – take the machine back to the dealer who sold it to you. For pre-Amstrad Spectrums (Plus and Plus 2/3) bought as new and within guarantee period, contact Sinclair Research.</p> |
| <p>A disk system is available in Japan, using proprietary non-standard Nintendo disks. The format provides greater memory capacity and hence enhanced versions of some software (eg Super Mario Brothers II). The system is not available in the UK at present.<br/> <b>Ports:</b> RF TV, video, audio 1; game controller slots; cartridge slot<br/> <b>Additions of light gun and robot make this</b></p>                                                                                                                                                                                                                                                                                                                                                                                 | <p>a suitable machine for younger children. Not a true computer; recommended as games console only.<br/> <b>***</b><br/> <b>Existing Software Base:</b> Huge (in Japan)<br/> <b>Current Releases:</b> Some<br/> <b>Prospects:</b> Because of the Yen to Pound conversion rate, Japanese software is likely to remain expensive.</p>                                                                                                                                                                                                                                                                                                                                                                             | <p><b>Games:</b> Good range of arcade-type software. Some arcade adventures<br/> <b>Graphics:</b> None<br/> <b>Music:</b> None<br/> <b>Prospects:</b> Good, but rate of import will depend on machine's popularity in UK.<br/> <b>Best Buy Price:</b> As RRP<br/> <b>Second Hand Availability:</b> Not as yet<br/> <b>Maintenance:</b> Manufacturers guarantee</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>Disks Not available<br/> <b>Ports:</b> 2 game controllers; cartridge slot<br/> <b>Robotics casing:</b> Not designed for future expansion. Not a true computer; recommended as games console only.<br/> <b>***</b><br/> <b>Existing Software Base:</b> Large</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p><b>Current Releases:</b> Well supported by UK distributor Mastertronic<br/> <b>Games:</b> Wide selection of arcade titles, generally considered to be of high quality. No adventures. Bulk of releases currently confined to conversions of Sega coin-op games.<br/> <b>Graphics:</b> None</p>                                                                                                                                                                                                                                                                                                                                                                                                               | <p><b>Music:</b> None<br/> <b>Prospects:</b> Good if support by Tropic and parent company Sega continues<br/> <b>Best Buy Price:</b> As RRP<br/> <b>Second Hand Availability:</b> None<br/> <b>Maintenance:</b> One year's guarantee. Back to dealer if faulty</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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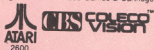
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## THE ACE PUZZLE

### ENIGMA VARIATIONS

*Set by Archie Medes*

Puzzles can intrigue, infuriate or even delight – if you crack them. The pleasure of solving the first of ACE's new puzzle series will be enhanced by the knowledge that you stand a chance of winning £25.00 of software if you're first out of the hat.

Some of the earliest mathematical puzzles are 'alphanumeric', in which letters are substituted for digits and

the solver has to discover the original values.

For example:  $ABCDE \times 4 =$

EDCBA would have as the solution the sum  $21978 \times 4 = 87912$ . In 1955 J.A.H. Hunter produced the first problems of this type which formed logical sentences. Even the apparently incorrect  $FOUR + FIVE = EIGHT$  will produce an alphametic if the digits  $6057 + 6291 = 12348$  are substituted.

Here's an alphametic especially designed to intrigue ACE readers.

**ENIGMA = ACE**

If you can solve the ENIGMA, its square root will result in ACE: a

puzzle that isn't likely to present too many problems to readers of ACE. REMEMBER: each letter always stands for the same digit; different letters indicate different digits.

# LISSAJ

We vowed we'd never ever put listings in ACE, but since the totally wonderful ACE card bonanza giveaway system needed a listing, well, what the heck – here's another one. It doesn't do anything half as useful as tell you you've just won an Amiga, but it does nicely illustrate the absurd differences between versions of Basic (and consequently what a bad idea listings are in a magazine like ACE).

You thought MicroSoft had standardised things years ago? Atari don't! The total lack of a suitable substitute for INKEYS

### ENIGMA ENTRY FORM

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ADDRESS.....  
COMPUTER OWNED.....

I think the answer is  $\sqrt{\text{ENIGMA}}$   
Please tick the appropriate box. Did you find the puzzle  
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Send your answers to

ENIGMA PUZZLE,  
ACE,  
4 Queen Street,  
Bath, BA1 1EJ

Closing date: April 10th 1988



# ACE PRIZE CROSSWORD 1

Set by Mips

The first correct entry drawn from the postbag will win software to the value of £25.00. Closing date for entries is 15th April. Solution and winner in July ACE.

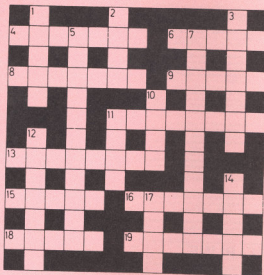
The ACE crossword is cryptic. The answer might be an anagram, or formed from the end of one word and the beginning of another, or simply another word hinted at by the clue. Most – but not quite all – of the answers are computer-related.

## DOWN

1. Clever way leading micro has with pictures (5)
2. Surrealist with paintbox at the turn of a dial (4)
3. Pupil took it outside – it's only a piece of software (7)
5. Appearing ages older when one is captured by one of SKN's killer (4,7)
7. Way a girl painter becomes programmer of Ranarama (5,6)
10. Gore split in game from Origin Systems (4)
11. Come face to face with me, an extra-terrestrial (4)
12. Rod's got fashionable – game from Microprose (7)
14. Wonder about circle made with pointing device (5)
17. Capital memory featured on the last Commodore (4)

## ACROSS

4. Mad star needs reformatting for hardware (7)
6. In one's dreams do something original about the operating system (2,3)
8. First George designed Merlin for the software house (7)
9. Screen from Prestel Lydia found interesting (5)
11. Attractive type of disk (8)
13. This Domark game's on target (5,3)



15. CIA is out to break the code (5)
16. A game's not art form, right? (7)
18. Partly comic role for a PC (5)
19. I'm joining the journals to make a mark (7)

## CROSSWORD ENTRY FORM

NAME: .....

ADDRESS: .....

.....

.....

.....

.....

## COMPUTER OWNED

.....

Please tick the appropriate box.  
Did you find the crossword

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Too difficult

About right

Send your answers to:

**PRIZE CROSSWORD 1,  
ACE, 4 Queen Street,  
BATH  
BA1 1EJ**

Closing date: April 10th

# SAJOU FIGURES

means that ST Basic can't handle this simple picture-drawing task. The Amiga meanwhile has no PLOT command or its equivalent, so you'll need to draw a line of zero length to get the desired effect. The C64's got rather more of an excuse for its shortcomings – let's face it, the old dear's getting on a bit – but without proper graphics commands it'd need a very different-looking program to get the job done.

The listing turns out Lis-sajou figures – the shapes made by objects performing simple harmonic motion (pendu-

lums for example) in two dimensions. It chooses such shapes at random, drawing a new one each time you hit a key. It's based on a CPC listing from *The Amazing Amstrad Omnibus* by Martin Fairbanks (Interface Publications, £7.95) but as you can imagine we've had to shuffle things around a bit to make it run on the Amiga and Spectrum. Even so, only lines 10 to 90 are common to all three versions: lines 100 to 400 are different on each machine, to allow for variations in Basic and display characteristics.

## MAIN LISTING

```
10 gosub 100
20 if inkey$="" then goto 20
30 let a=int(md*(y-x-1))+x
40 let b=(md*(m)+.8:let c=0:gosub 200
50 if inkey$<>" " then cls:goto 30
60 let c=c+.1:gosub 300
70 if rnd>.9 then let a=a+1
80 if a=y then let a=x
90 goto 50
AMSTRAD LINES
100 randomize time:x=1:y=4:mode
1:return
200 gosub 400:plot d,e:a:return
300 gosub 400:draw d,e:a:return
400 let d=320+100*sin(c):let
e=200+100*sin(c*b):return
```

## SPECTRUM LINES

```
100 randomize 0:let x=0:let
y=7:return
200 gosub 400:plot ink a,d,e:return
300 let f=d:let g=e:gosub 400
310 draw ink a,d,f,e:g:return
400 let d=127+60*sin c:let
e=87+60*sin (c*b):return
```

## AMIGA LINES

```
100 randomize timer:x=1:y=4:
return
200 gosub 400:line (d,e)-
(d,e):a:return
300 gosub 400:line -(d,e):a:return
400 let d=320+150*sin(c):let
e=100+75*sin(c*b):return
```









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| Predator               | D4 6.75  | D4 6.75  | D4 6.75  |
| Rolling Thunder        | 6.25     | D2 6.75  | D4 6.75  |
| Black Lamp             | 5.50     | D4 6.25  | D4 6.25  |
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| Title                  | Spectrum | Com64    | Amstrad  |
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Does Mike feel lucky? Does he know his limitations?

Porsche 911. Close examination of his gun reveals that it isn't loaded - you can see down the chambers - but with acceleration like that he can probably just run people over.

Also spotted totting guns for software promotion purposes this month were the cast from *Platoon*, seen here in a break from a tough session of multi-loading. Gun freaks will notice the M60 'pig' at the right of the picture - rather more powerful than anything they let Mike Hodges play with - while the rest of us can ponder the fate of the black guy at the back. Did you spot him in the *Ocean* game? No, neither did we. Wonder why not...

If you're really after major league firepower of course, you'll want a glimpse of Activision's



The boys from Platoon ain't afraid of no Porsche 911.

*Predator*. The film featured the 7.62mm minigun, a weapon that makes the 'pig' look decidedly sick. This one could really ruin the paint-job on Mike's 911, and it does actually appear in the game - but its firepower is singularly woody in the previews we've seen, so don't get your hopes up. (Incidentally, the previews showed Arnold Schwarzenegger with an all-white rescue squad. Now there were two black guys in his squad in the film: what happened to them?)

From the sublime to the ridiculous as it were, courtesy of those funny old Martech people. Following on from the controversial Sam Fox Strip

*Poker* they've digitised fellow Page 3 inhabitant (and sometime *Benny Hill* Show girl) Corinne Russell for their new epic *Vixen*. Apparently she gets to attack the bad guys with a whip - when she isn't busy turning into a fox, that is.



Don't Martech ever think of anything else?

When we heard about the project a few months ago we thought it was a joke, but apparently not. Pity...

## Join the ACE team!

Are you an honest, reliable person who's over 14 years old? Would you like to earn free magazines and software by making a few visits to your newspapers each month? Obviously many of you would - we have a terrific response to our advertisement in last month's ACE.

However, we're still looking to recruit local representatives in or near to the towns listed at the bottom of this panel. Their main task will be regular checks to ensure that enough copies of the magazine are reaching local newspapers. In return we're offering:

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## ● Super Select, super OOPS!

Somewhere deep in the West Midlands, Mark Farmer is playing *Xenon*. His computer's only a Spectrum +2, but that's no obstacle to him: you see, he won the *Super Select* System in our issue 5 Arcadia competition. The correct answers were: A - Blasta Ball, B - World Darts, C - Xenon, D - Sidewinder; but like many of you, Mark got C and D the wrong way round because we got the photos muddled up on the competition page. This being a fairly serious sort of OOPS! we counted as correct all the replies that had A and B right - and that made well over 10,000! Those of you who didn't win can go out and spend your 50p pieces on a *Super Select* machine near you, but lucky old Mark doesn't have to of course!

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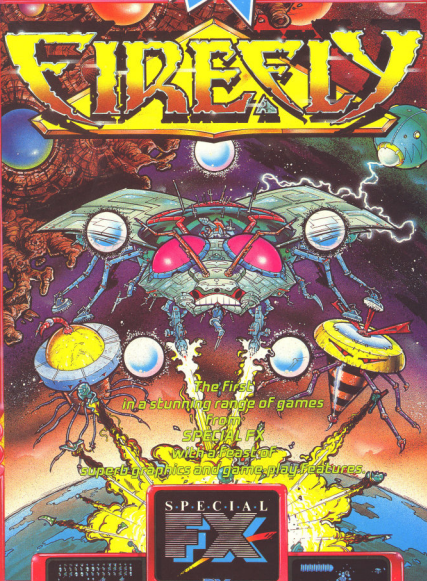
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